Adult Basic Education

in British Columbia's Public Post-Secondary Institutions

An Articulation Handbook
2000-2001 Edition

BRITISH COLUMBIA
Ministry of Advanced Education, Training and Technology

CENTRE FOR CURRICULUM, TRANSFER & TECHNOLOGY

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An Articulation Handbook

2000-2001 Edition

Produced by the
Province of British Columbia, Ministry of Advanced Education, Training and Technology
and the
Centre for Curriculum, Transfer and Technology

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Ministry of Advanced Education, Training and Technology

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INTRODUCTION

THIS IS THE FIFTEENTH EDITION of BC's Adult Basic Education Articulation Handbook.

The handbook is available on the Ministry of Advanced Education, Training and Technology's web site. It can be found at:

http://www.aett.gov.bc.ca/abe/handbook/

The handbook is also available in Adobe Acrobat portable document format from the same site. To view and print the document, you will need the freely-available Acrobat Reader software. To download this software, simply click on the "Get Acrobat" icon.

The major changes in this edition include information on the British Columbia Adult Graduation Diploma and links with the Ministry of Education Adult Programs. Each of the Working Committees now has a school district representative as a member. Committees also hope to identify a post-secondary representative for some of the discipline areas. In this way, there are linkages between the various systems which accommodate adult learners.

There is a revised Developmental Mathematics Advanced Level course, written in learning outcomes. Learning outcomes have also been added for the Physics Advanced and Provincial courses.

Articulation is a dynamic process and thus will never be completed. The committees meet annually to discuss and agree upon changes and their findings are faithfully recorded in this handbook. The process brings order to the ABE program area as offered by the post-secondary system and permits the orderly transfer of course work and credits between participating institutions. The articulation process facilitates dialogue and sharing among professionals and it has effectively raised the status of this program area. It is believed and hoped, however, that the biggest beneficiaries are our students.

Articulation is supported by the ongoing development of curriculum resources in the various discipline areas. For a listing of materials and integrated resource packages, go to:

http://www.ctt.bc.ca/curric/resources.html

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HISTORY OF ABE ARTICULATION

ABE ARTICULATION in British Columbia began in 1983. After much deliberation and consultation, the ABE Articulation Development Committee produced a provincial framework and common terminology as a foundation to the process by early 1985. In May, 1985, the ABE Articulation Steering Committee was established to oversee the implementation and on-going process of articulation across the post-secondary system. The Steering Committee set up working committees in each of the major discipline areas, with members from all 15 colleges and the Open Learning Agency. The discipline working committees developed generic outlines and a grid of equivalencies by subject and course for the 16 participating institutions.

In 1986, the then Ministry of Advanced Education and Job Training validated the process by producing the ABE Provincial Diploma to be awarded to any student completing the requirements for secondary school graduation as laid out by the ABE framework. The diploma is signed by the Minister and the college President so that the student's accomplishment and the program he/she participated in is officially recognized.

In 1987, the ABE Framework and Diploma were presented to the provincial universities and British Columbia Institute of Technology. Eventually, all of these institutions recognized the Diploma as an official credential for entry into university studies.

In 1991, the Steering Committee implemented a review of the whole ABE Articulation process. The review culminated in a report presented to the Steering Committee in June, 1992. The 1993 Articulation Handbook included a revised statement on the purpose of articulation.

In 1995, a Ministry of Education/Ministry of Skills, Training and Labour Joint Committee on Adult Basic Education made recommendations which included, among others, a common adult graduation credential and an articulation process between school district adult programs and the public post-secondary institutions. Work on the recommendations was put on hold until the college tuition-free ABE announcement of May 1998. At that time, the ABE Transitions Project was set up between the Ministry of Education and the Ministry of Advanced Education, Training and Technology. The overall goal of the project was to work towards a coordinated ABE system for British Columbia by developing a more integrated, learner-centred approach to ABE programming. Two of the specific objectives of the project were the implementation of a common credential for adults and improved articulation of courses.

In May 1999, the Ministers announced the British Columbia Adult Graduation Diploma – "The Adult Dogwood" – which replaces the old Adult Dogwood and the ABE Provincial Diploma. In May 2000, amendments were made to the *College and Institute Act*, the *Institute of Technology Act*, and the *Open Learning Agency Act*, to recognize this new joint credential. Amendments were made to the *School Act* and the *Independent School Act* to recognize the credential as well.

THE ABE ARTICULATION PROCESS

The Purpose of Articulation

The purpose of ABE articulation is to provide the development and delivery of high quality education and to facilitate the transfer of adult learners in publicly-funded colleges, university colleges, universities, and institutes in British Columbia.

As of September 1999, the common adult credential (the British Columbia Adult Graduation Diploma – "The Adult Dogwood") was implemented. The purpose of articulation includes liaison with the school system's ABE programs to facilitate transfer of students back and forth between school district and college ABE programs.

NOTE: The BC Council on Admissions and Transfer (BCCAT) works to further the aim of transitions of adult learners. As of the year 2000-2001, working with BCCAT, all ABE working committees will have school district representatives.

The Goals of ABE Articulation

The goals of ABE articulation are:

1. to facilitate the transfer of students from one educational institution to another;
2. to facilitate entry of students into further programs;
3. to lend credibility to the ABE Certificates/Diplomas for students seeking employment or further education;
4. to provide a common terminology throughout the province for levels of achievement;
5. to provide for exchange of information;
6. to set and maintain learning outcomes which respect the autonomy of colleges and institutes to create equivalent course content;
7. to set course requirements for diplomas and certificates;
8. to assist, through working committees, in the development of guidelines for the content of courses identified for different levels of certification;
9. to provide a forum for the discussion of ABE issues;
10. to provide a common voice when addressing external bodies;
11. to encourage development and exchange of curriculum materials.

Steering Committee Business

I. Representatives to the ABE Steering Committee

Appointment/Membership:

1. The ABE Steering Committee Chairperson requests a representative and an alternate from each institution through the Chief Executive Officer of the institution.
2. A formal appointment is made by the institution and recorded by the Steering Committee Chairperson.
3. The desirable attributes in a representative should include:
   - knowledge of field and programs in ABE
   - knowledge about the institution's development of ABE
   - commitment to the articulation process.
4. Appointment is for a two year term that is renewable.
5. A representative carries a single, institutional vote.

Role of a Representative:

As the prime contact person for ABE articulation within the college, between colleges and for other related groups, committees or agencies in the field which may be affected by articulation, the representative:

1. attends Steering Committee meetings;
2. brings institution's concerns, plans and continuing progress in articulation work to Steering Committee;
3. encourages and facilitates institutional participation in articulation working committees;
4. facilitates articulation work in the college by:
   - communicating with all parts and persons in ABE or relating to ABE,
   - promoting the rationalization of ABE in the light of continuing articulation, and
   - assisting in the update of college brochures, services, etc. regarding ABE articulation.
5. maintains contact with the college's member of the BC Council on Admissions & Transfer (BCCAT);
6. provides regular reports to his/her college on articulation activity;
7. prepares and submits an annual report to the Steering Committee on changes, progress etc. in his/her

institution that have occurred because of ABE articulation;
8. advises his/her institute's Administration in matters relating to articulation.

II. Chairperson of the Steering Committee

Role of the Chairperson:

The Chairperson of the ABE Steering Committee:

1. prepares the agendas for meetings;
2. sends out a notice of a meeting and its agenda well in advance of each meeting;
3. orients new Working Committee Chairs;
4. submits recommendations and concerns with respect to the articulation process to the BCCAT;
5. chairs meetings of the Steering Committee;
6. chairs meetings of the Steering Committee Executive;
7. keeps informed of all articulation developments in relation to Working Committee developments, local college developments, liaison with receiving institutions;
8. Represents the ABE Articulation process when needed and as appropriate;
9. confers with Working Chairpersons on agendas for all meetings;
10. attends as many Working Committee meetings as possible as a non-voting member;
11. deals with problems and inquiries regarding articulation that arise in the field;
12. liaises with the Ministry on information and problems related to articulation;
13. sends letters to institutions' chief executive officers requesting the appointment of committee representatives and alternates, timing the requests so that half the membership is renewed each year;
14. keeps the ABE articulation policy manual up to date.

Working Committee Business: Terms of Reference

I. Tasks of a Working Committee

A subject Working Committee:

1. reviews college course outlines at the respective levels;
2. comes to a consensus on learning outcomes derived from existing courses at each level of the framework;
3. if appropriate, reviews related curriculum which may impact upon articulation, i.e. Ministry of Education;
4. articulates college courses with the described learning outcomes and produces a provincial course transfer guide;
5. makes recommendations through the chairperson to the Steering Committee, i.e. curriculum development, course development;
6. understands that course articulation (Advanced & Provincial Levels) with the universities and institutes is ultimately the responsibility of each college;
7. understands that the process of articulation is primarily one of the exchange of information and setting of learning outcomes, and not one of prescription of length of course, instructional methodology or materials;
8. establishes and maintains links with other articulation committees in the same discipline whenever feasible on issues related to university transfer, career/technical/vocational areas, K-12, and Continuing Education ABE.

II. Tasks of a Chairperson

A. Procedure

A Working Committee Chairperson:

1. is elected from within the Working Committee;
2. serves a two year (renewable) term;
3. becomes a member of the Steering Committee and the Executive of the Steering Committee;
4. calls annual meetings in the Lower Mainland at least two months prior to the annual Steering Committee meeting;
5. discusses a proposed agenda with the Steering Committee chairperson prior to mail-out;
6. sends a copy of an agenda one month in advance of the meeting to the Working Committee members, the Steering Committees, the Ministry, and to all College principals;
7. encourages every college and institution to send or designate a representative who will act as a spokesperson for the institution;
8. encourages the colleges to send two representatives when the subject area of the Working Committee crosses two instructional units such as ABE and College Preparation;
9. writes an annual report which includes a goal statement, a list of generic topics, a course transfer guide, and the recommendations of the Working Committee to the Steering Committee that may include any curriculum proposals;
10. sends the annual report to the Steering Committee secretary for distribution prior to the annual Steering Committee meeting; (Note: Copies of a report

must be received at least one month in advance of the meeting.)
11. reports in person to the Steering Committee;
12. provides updated material to the Ministry for the Articulation Handbook.

B. Responsibilities

A Working Committee Chairperson:

1. represents an institution;
2. orients new members of the Working Committee;
3. notifies Steering Committee members when colleges are not represented on Working Committees;
4. ensures there is a recorder for the Working Committee to summarize the results of the meetings, including items for action;
5. seeks the advice of the SIOC member and when necessary invites that person or any other non-voting person to a meeting;
6. keeps updated course outlines at all levels for each college;
7. ensures the Working Committee stays on task.

List of Working Committees

Currently, there are seven working committees. They are:

1. Computer Studies
2. Education and Career Planning
3. English
4. Fundamental Level
5. Mathematics
6. Science
7. Social Science

Articulation Task Checklist

The following checklist is provided to facilitate effective ABE articulation:

1. ABE Division

Within the ABE division or department in the institution, there should be a plan for general information sessions, including:

- regular subject area meetings, particularly after representatives return from Working Committee meetings;
- prompt and efficient distribution of reports from the Working Committee and Steering Committee minutes and reports;
- change of terminology on certificates, transcripts, calendars, application forms, and other documents;
- development of a new ABE brochure to use in orientation meetings internally and externally;
- submission of course, program, or procedural changes to the respective college committees, i.e. Program Advisory Committee, Standards and Admissions Committee, etc.

2. Students

Provide orientation for:

- ABE students;
- potential ABE students currently in other programs.

3. College

Provide information on an on-going basis to:

- Coordinators or heads of other departments;
- Dean or Vice-president of Instruction;
- Counsellors/Advisors;
- Registrar/Admissions;
- Financial Aid Officer.

4. Graduation Diploma

Plan to:

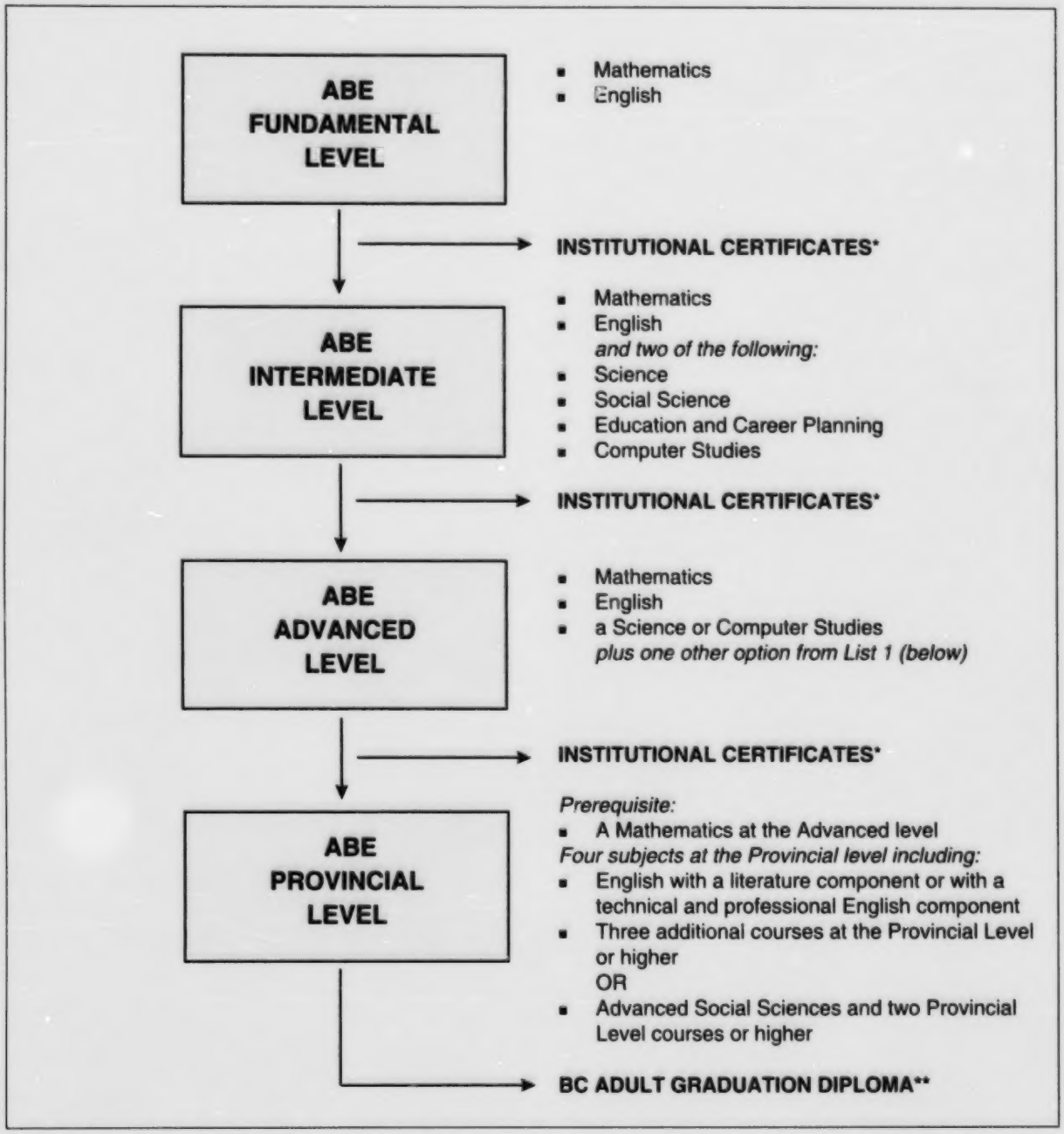
- identify a list of required and elective courses at this level;
- establish a procedure for dealing with electives;
- ensure that students are well-advised or counselled in their course selection;
- establish a procedure for applying for the Diploma (an application form, college transfer credit policy, application of 100 or higher level courses);
- approve student applications (coordinator, committee, registrar);
- establish a procedure for tracking diploma recipients.

5. Community

Provide information on an on-going basis to:

- Ministry of Social Development and Economic Security offices;
- school districts;
- aboriginal band administration officers;
- other funding agencies.

ABE PROGRAM FRAMEWORK



List 1. Options may be chosen from social sciences, another science, trades training at the Occupational level, a language, accounting, education and career planning, etc., at the advanced level or higher.

(Specific lists of options will be available at individual colleges & institutions.)

*** Each certificate and diploma is independent and not prerequisite for another.**

NOTE: Effective June 30, 1996, Advanced Level Accounting was no longer considered a Math credit for an Advanced Certificate or the Provincial Diploma. This situation changed with the implementation of the new B.C. Adult Graduation Diploma in September 1999.

**** Effective Sept. 1, 2000, the ABE Provincial Diploma was no longer granted. The new BC Adult Graduation Diploma ("The Adult Dogwood") is effective Sept. 1, 1999. See the next pages for more information.**

THE BC ADULT GRADUATION DIPLOMA: "The Adult Dogwood"

New as of September 1, 1999

To be eligible to graduate on this program, adult students (19 years of age or over) must earn at least 20 credits in the secondary system or five courses in the post-secondary system. Courses and credits can be counted from either or both of the following areas:

BC SCHOOL SYSTEM SECONDARY – Qualifying Courses			**COLLEGE ABE PROGRAM – Qualifying Courses**
Language Arts 12	4 credits	***OR***	A Provincial Level English or higher
Mathematics 11 or 12	4 credits	***OR***	An Advanced or Provincial Level or higher Mathematics
Three Grade 12 Ministry-authorized Courses (4 credits each)	12 credits	***OR***	Three additional courses at the Provincial Level or higher
or			or
Social Studies 11 (4 credits) and two Grade 12 Ministry-authorized Courses (4 credits each)	12 credits		Advanced Social Sciences and two Provincial level courses or higher
Total:	**20 credits**		**Total: 5 courses**

Notes:

1. To be eligible for the Adult Graduation Diploma, a person must be 19 years or older. An eighteen year-old who has been out of school for at least a year may be admitted to an adult program with approval from the enrolling institution.

2. Three courses must be completed through enrollment in a course or Prior Learning Assessment after enrolling in an adult program. Prior Learning Assessment may be used to meet any of the requirements for the Adult Diploma. Prior Learning Assessment involves a variety of techniques including equivalency reviews, challenge processes, in-depth interviews, etc.

3. In the secondary system Provincial Exams are optional for students on an adult program. If the student chooses not to write a provincial exam, the grade will be reported with a "Q" code. It should be noted that some post-secondary institutions may not accept examinable courses for admission purposes unless the secondary system provincial exam has been written.

4. Any course that is Ministry-authorized by either the Ministry of Education (4 credits) or the Ministry of Advanced Education, Training and Technology as requirements for graduation may be used towards the BC Adult Graduation Diploma.

5. For Ministry of Education information see the following section: "BC Adult Graduation Diploma: Questions and Answers."

The BC Adult Graduation Diploma: Questions and Answers

What is the name of the new adult credential?

The official name of the new credential is the British Columbia Adult Graduation Diploma, but it is also known informally as the "Adult Dogwood."

What does the BC Adult Graduation Diploma replace?

The BC Adult Graduation Diploma replaces the former Adult Dogwood granted through the Ministry of Education (MOE) and the former ABE Provincial Diploma granted through the Ministry of Advanced Education, Training and Technology (MAETT).

What about the regular Dogwood Diploma?

The regular Dogwood Diploma is not affected by these changes. Adults may choose to do the regular Dogwood Diploma through the MOE. All articulated post-secondary ABE courses can be used for credit towards either the regular or Adult Dogwood.

What about the GED?

The GED (General Educational Development) certificate is not affected by these changes. The GED certificate is not the same as a dogwood diploma.

When was the new BC Adult Graduation Diploma implemented?

The new diploma was implemented as of September 1, 1999.

However, there was a transition period between September 1, 1999 and August 31, 2000 in which the ABE Provincial Diploma was also granted through the post-secondary institutions and MAETT.

As of September 1, 2000 the ABE Provincial Diploma may no longer be granted.

Who will issue the BC Adult Graduation Diploma?

Post-secondary institutions will request the diplomas from MAETT (at 250-387-6198) and issue them from the registrar's office. The new diploma is a joint MAETT/MOE document signed by both ministers. Students may take their post-secondary course(s) back to the school district and apply for their diploma through the school district and MOE.

Who will issue the transcripts for the diploma?

The institution issuing the diploma identifies which courses have been used to qualify for the diploma, both internal and transfer courses. Students combining courses from the two systems for the diploma will need to include all relevant transcripts in situations where they need to verify their courses and grades.

Does a student have to take at least 3 of the courses used towards the Adult Dogwood as an adult?

Yes, or a student may use Prior Learning Assessment (where available) as an adult to get credit for at least 3 courses used towards the diploma.

What if a student is only missing one or two courses from their high school graduation?

This student could take the missing course(s) at the college or school district and take them back to the high school towards the regular Dogwood Diploma.

Does a student have to take a minimum number of courses used towards the Adult Dogwood from the institution granting the Adult Dogwood?

Yes, at least one course from the institution granting the diploma. The other eligible courses may be brought from another institution or institutions.

Can a student use courses taken a long time ago for credit towards the Adult Dogwood?

Yes, as long as s/he has completed three courses as an adult.

Will college ABE students be able to write MOE provincial exams?

No, not through a college.

If a student wishes to write a provincial exam the student must register for the provincially examinable course at a school district.

What courses are eligible? Can Communications 12 be used as the Language Arts 12? Can Accounting 11 be used for the Mathematics 11?

Any course that is Ministry-authorized by either MOE (4 credits) or MAETT (see the handbook information below) as requirements for graduation my be used towards the diploma.

Yes, Communications 12 and Accounting 11 are eligible for Language Arts 12 and Mathematics 11 respectively.

Where can I find out more information about course requirements and graduation requirements?

Ministry of Advanced Education, Training and Technology:

This Articulation Handbook is the MAETT authorized guide to ABE course information and graduation requirements. Further copies may be ordered by contacting MAETT at 250-387-6198 (phone) or 250-952-6110 (fax), or may be downloaded from **http://www.aett.gov.bc.ca/abe/handbook/**

Eligible courses include any advanced Mathematics or higher, any provincial English or higher, and any provincial level courses or higher. Higher than provincial level courses may or may not be accepted for university transfer if they have also been used towards the BC Adult Graduation Diploma. Students using these need to check with the receiving department/institution.

Ministry of Education:

The main MOE website for the Adult Graduation Program is **http://www.bced.gov.bc.ca/adult_graduation/**

The graduation requirements are also included in the *Handbook of Procedures* (**http://www.bced.gov.bc.ca/exams/handbook/chapter3/adult.htm**). This handbook also includes information on course equivalencies (Chapter 2).

All four credit grade 12 courses that are listed in Chapter 1 (ministry-authorized) and Chapter 2 (external courses) of *Course Information* book, plus Social Studies 11 can meet the BC Adult Graduation Diploma requirements. See: **http://www.bced.gov.bc.ca/graduation/courseinfo/toc.htm**

Two credit courses cannot be used towards graduation in the adult program. The exception is CAPP 11 and 12, which, for adults only on the adult program, can now be combined as CAPPA 12 and be used as a four credit course towards graduation.

The books mentioned above can be ordered from the Data Management Branch of MOE by fax at 250-952-6579 or downloaded from the Internet.

The tables on the next page indicate which ABE post-secondary courses have been deemed equivalent (80% match of learning outcomes) to the MOE courses and which ones are external (MOE authorized for credit towards a graduation diploma).

ABE Post-Secondary Courses Authorized as Equivalent to Ministry of Education Courses

MoE COURSE CODE	ABE POST-SECONDARY COURSE TITLE	MoE EQUIVALENT COURSE	CREDITS	MEETS FOUNDATION STUDIES
MATHEMATICS				
MAA 11	ABE Advanced Business and Consumer Mathematics	Mathematics 11A*	4	Mathematics
MAA 11	ABE Advanced Technical Mathematics	Mathematics 11A*	4	Mathematics
IMA 11	ABE Advanced Developmental Mathematics	Introductory Mathematics 11	4	Mathematics
MA 11	ABE Advanced Algebraic Mathematics	Principles of Mathematics 11	4	Mathematics
QMA 12	ABE Provincial Mathematics	Principles of Mathematics 12	4	Mathematics
SCIENCE				
BI 11	ABE Advanced Biology	Biology 11	4	Science
QBI 12	ABE Provincial Biology	Biology 12	4	Science
CH 11	ABE Advanced Chemistry	Chemistry 11	4	Science
QCH 12	ABE Provincial Chemistry	Chemistry 12	4	Science
EDUCATION and CAREER PLANNING				
CAPPB 11	ABE Advanced Education and Career Planning	Career and Personal Planning B 11	4	
CAPP 11 CAPP 12	ABE Provincial Education and Career Planning	Career and Personal Planning 11/12	2 2	Career and Personal Planning 11 and 12

* Essentials of Math 11 and 12 will be implemented in September 2000. There will be credit restrictions for Essentials of Math 11 against Mathematics 11A while they co-exist. In September 2002, Essentials of Math 11 will replace the curriculum for Mathematics 11A.

N.B.: MoE course equivalency policies are outlined at the beginning of chapter 2 of the *Handbook of Procedures.* http://www.bced.gov.bc.ca/exams/handbook/

External ABE Post-Secondary Courses Authorized for Ministry of Education Credit

MoE CODE	ABE POST-SECONDARY COURSE TITLE	MEETS FOUNDATION STUDIES	CREDITS	CREDIT RESTRICTIONS BY CODE
UABEA 11	ABE Advanced Accounting (11)	Applied Skills	4	
UABEC 11	ABE Advanced Computer Studies (11	Applied Skills	4	
UABEC 12	ABE Provincial Computer Studies (12)	Applied Skills	4	
UABEE 11	ABE Advanced English (11)	Language Arts 11	4	EN 11
UABEE 12	ABE Provincial English (12)	Language Arts 12	4	EN 12
UABEP 11	ABE Advanced Physics (11)	Science	4	PH 11
UABEP 12	ABE Provincial Physics (12)	Science	4	PH 12
UABEG 11	ABE Advanced General and Applied Science (11)	Science	4	
UABES 11	ABE Advanced Social Studies (11)	Social Studies	4	SS 11
UABES 12	ABE Provincial Social Studies (12)		4	

N.B.: A Ministry of Education (MOE) approved External course is an MOE-authorized course. These courses are of equivalent or higher standard to other MOE-authorized senior secondary courses, but the learning outcomes differ. Other MOE approved External course lists can be found in chpater 2 of the *Course Information* book. http://www.bced.gov.bc.ca/courseinfo/toc.htm

RECOGNITION of the ABE PROVINCIAL DIPLOMA and the BC ADULT GRADUATION DIPLOMA

The ABE Provincial Diploma is recognized by colleges, institutes and universities in the British Columbia post-secondary system. Entries below are taken from recent calendars.

Note: Recognition of the British Columbia Adult Graduation Diploma ("The Adult Dogwood") by the following institutions is in process, unless otherwise stated.

B.C. Institute of Technology

The British Columbia Adult Graduation Diploma is considered to be equivalent to BCIT general prerequisites; that is, graduation from Senior Secondary School. Applicants should check with the Admissions department to ensure courses taken through the BCAGD are acceptable for admission to BCIT.

Simon Fraser University

At its meeting of 3 April 2000, the Senate of Simon Fraser University approved the following motion:

"Graduates of the B.C. Adult Graduation Diploma who are at least 19 years of age and who have completed those courses specified for admission in the regular B.C. (secondary school) Graduation Diploma or equivalent courses offered through post-secondary institutions, except that a Grade 11 language course is not required, be eligible for admission in the high school admission category. The four Grade 12 or equivalent courses must be from different disciplines. A minimum average of 67% (C+) based on English 12 and three other academic Grade 12 courses or their equivalents is required. This policy is to be effective for three years, from May 2000 to September 2003, with a review to occur in Fall 2001."

For further details, see p. 30 of the 2000-01 Calendar

University of British Columbia

(2000-01 Calendar, p. 39)

Adult Basic Education - Provincial Diploma
The university recognizes the ABE Provincial Diploma for admission to the first year of an undergraduate program. A minimum average of C+ is required based on mathematics, English, a science and a language at the Advanced Level and English plus three academic subjects at the Provincial Level chosen from the following: biology, chemistry, physics, geography, history, literature, mathematics and computer science.

Note: University transfer courses may not be used as part of the ABE Provincial Diploma for admission to UBC.

University of Northern British Columbia

(2000-01 Calendar, p. 15)

Applicants may enter UNBC after successful completion of the ABE Provincial Diploma. A minimum of C+ average is required based on an applicant's performance in English, Math (Algebra) and at least one Science course at the Advanced Level.

University of Victoria

(1999-2000 Calendar, p. 12)

Provincial Adult Basic Education Diploma
The Provincial Adult Basic Education Diploma is recognized for entry to the first year of an undergraduate program. A minimum C+ average is required based on Algebra, English, a laboratory science, and a second language (all at the advanced level), and English plus three academic subjects chosen from Biology, Chemistry, Physics, Earth Science, Geography, Literature, History, Mathematics (academic), Computer Science, Calculus, and Languages (all at the provincial level).

In addition, holders of the P.A.B.E.D. must be 19 years of age or over prior to the beginning of the session applied for. University level courses used to obtain the Diploma will not be recognized for transfer credit at the University of Victoria.

Technical University of B.C.

TechBC admits applicants with Adult Basic Education graduation, but also has specific entry requirements that must be met. Please see their website at www.techbc.ca for current admission requirement information.

Trinity Western University

(1999-2000 Calendar)

Students possessing an ABE Provincial Diploma will be admitted to TWU without restriction subject to the following conditions:

1. At least four academic courses have been successfully completed, one of which must be English.
2. The minimum recommended average is C+ standing.
3. We request that grades appear as 'letter grades' on the transcript (which must accompany the diploma).
4. International students from non-English speaking background will still be required to submit an acceptable TOEFL score.
5. At least 19 years old.

TRANSFER GUIDES

Accounting Transfer Guide

INSTITUTION	ADVANCED
Camosun College	
Capilano College	OTEC 117 & OTEC 217 (formerly BOT 108 & BOT 109)
College of New Caledonia	
College of the Rockies	
Douglas College	
Kwantlen University College	OADM 1262 & OADM 1265 (formerly OADM 230 & OADM 236)
Langara College	
Malaspina University-College	
Nicola Valley Inst. of Tech.	
North Island College	BKK 160 & BKK 161 (BKK 161 no longer offered)
Northern Lights College	
Northwest Community College	OTEC 120-2 & OTEC 125-2 (formerly Accounting 101)
Okanagan University College	Acctg 011 (not offered since 1989)
Open Learning Agency	BUSM 131
Selkirk College	
UC of the Cariboo	
UC of the Fraser Valley	
Vancouver Community College	ACTG 062 & 072
Yukon College	ACTG 100 & 200

Note: Effective June 30, 1996, Advanced Level Accounting was no longer considered a Math credit for an Advanced Certificate or the Provincial Diploma. This guide is incorporated for reference purposes only, as some students may have used these courses as Math credit prior to June 30, 1996.

In September 1999, with the introduction of the BC Adult Graduation Diploma, Accounting was accepted in lieu of a Grade 11/Advanced Mathematics credit.

Computer Studies Transfer Guide

INSTITUTION	FUNDAMENTAL	INTERMEDIATE	ADVANCED	PROVINCIAL
Camosun College				
Capilano College	BCMP 021	BCMP 031	BCMP 041	BCMP 042 (prog); BCMP 043 (app)
College of New Caledonia			CST 045	
College of the Rockies			COMP 080	COMP 090 (app)
Douglas College				
Kwantlen University College				
Langara College				
Malaspina University-College			COST 047	COST 067 (app)
Nicola Valley Inst. of Tech.		COMP 040	COMP 050	
North Island College	CPS 025		CPS 086	
Northern Lights College	CPST 020		CPST 040	CPST 050 (app)
Northwest Community College		CPST 030	CPST 040	
Okanagan University College			COST 011	COSC 012 (prog)
Open Learning Agency			DTEC 020	DTEC 030 (app)
Selkirk College			COST 50	CPST 51 (app)
UC of the Cariboo		COMP 040	COMP 050	COMP 060 (prog), COMP 065 (app)
UC of the Fraser Valley	COMP 061	COMP 071	CIS 100	
Vancouver Community College			CST 063 & 073	COSC 083 & 093 (prog)
Yukon College				

(app) = Applied Computer Studies at the Provincial level;
(prog) = Programming (Computer Science) at the Provincial level.

Education & Career Planning Transfer Guide

INSTITUTION	INTERMEDIATE	ADVANCED	PROVINCIAL
Camosun College	BEST 040	BEST 040	BEST 040
Capilano College			
College of New Caledonia		EDCP 045	
College of the Rockies	EDCP 070*	EDCP 080*	EDCP 090*
Douglas College			
Kwantlen University College			
Langara College			
Malaspina University-College	EDCP 030*	EDCP 047*	EDCP 067*
Nicola Valley Inst. of Tech.			
North Island College	CEP 030		
Northern Lights College		EDCP 040	
Northwest Community College	EDCP 030		
Okanagan University College	EDCP 71, 72, 73, 74 & 75*	EDCP 81, 82, 83, 84 & 85*	
Open Learning Agency	EDCP 010*	EDCP 020	EDCP 030*
Tl'azt'en Nation		EDCP 024	
Prince George Native Friendship Centre	PGEC 010	PGEC 020	
Educacentre	APDC 010*	APDC 020*	APDC 030*
Selkirk College	EDCP 49*	EDCP 50*	EDCP 51*
UC of the Cariboo	EDCP 040		
UC of the Fraser Valley			
Vancouver Community College	EEAW 041 & 051, BEST 041 & 051	EEAW 061 & 071, BEST 061 & 071	EEAW 081 & 091, BEST 081 & 091
Native Education Centre	EDCP 041 & 051		EDCP 081 & 091*
Yukon College			

* Course levels are differentiated by the level of language and the requirements of the assignments. Thus, the Provincial level will require a higher level of language ability and the assignments will be more demanding than the Intermediate level.

English Transfer Guide

INSTITUTION:	INTERMEDIATE	ADVANCED	PROVINCIAL
Camosun College	ABEN 050	ABEN 080	ABEN 080, ENG 082 & ENG 084 or 088
Capilano College	BENG 031	BENG 040, BENG 041	BENG 042
College of New Caledonia	ENG 030	ENG 045	ENG 050
Prince George Native Friendship Centre		ATEN 045	
College of the Rockies	ENGL 070	ENGL 080	ENGL 090, ENGL 091
Douglas College	DVST 350 & 360; DVST 355	DVST 455	
Kwantlen University College	ACPE 0070	ACPE 0080	ACPE 0090 or ACPE 0097
Malaspina University-College	ENG 037	ENG 047	ENG 067
Nicola Valley Inst. of Tech.	ENG 40	ENG 50	ENG 60
North Island College	ENG 032 & ENG 033 & ENG 034	ENG 052	ENG 060 ENG 098
Northern Lights College	ENGL 030	ENG 040	ENG 050
Northwest Community College	ENG 030, First Nations 030	ENG 040, ENG 045	ENG 050 ENG 055
Okanagan University College	ENG 70, ENG 71 & 72	COMP 011, ENG 80, ENG 81 & 82, ENG 011	ENG 012, ENG LIT 012, REAC 062 & WRIT 061
Open Learning Agency	ENGL 010, ENGL 012	ENGL 024, ENGL 020, ENGL 028	ENGL 030 or ENGL 034
Prince George Native Friendship Centre	PGEN 010	PGEN 020	PGEN 030
Tl'azt'en Nation	ENGL 014		
Selkirk College	ENG 10	ENG 50	ENG 51, ENG 55
University of British Columbia			FN ENGL 012
UC of the Cariboo	ENGL 040	ENGL 050	ENGL 060, CESL 057 & 058
UC of the Fraser Valley	ENGL 071	ENGL 081	ENGL 091
Vancouver Community College	ENG 041 & 051	ENG 061 & 071	CV 081 & 091, LIT 081 & 091, LIT 083 & 093, ENG 096, ENG 098 & 099, ENG 081 & 091
Native Education Centre	First Nations ENG 041 & 051	First Nations ENG 061 & 071	ENG 081 & 091, or ENG 083 & ENG 093 (tech)
Yukon College	ENG 030	ENG 050	ENG 060

Fundamental Level Transfer Guide

INSTITUTION:	ENGLISH	MATH	OTHER
Camosun College	ABEN 030, ABEN 040*	ABMA INTRO, ABMA 040*	
Capilano College	BENG 011, BENG 021*	B.MATH 011, B.MATH 021*	BCMP 021
College of New Caledonia	ENG 010, ENG 020*	MATH 010, MATH 015 & 020*	
College of the Rockies	ENG 060*	MATH 060*	
Douglas College	DVST 100, DVST 155, DVST 250*/255*/260*	DVST 110, DVST 210*	
Kwantlen University College	ACPE 0050, ACPE 0060*	ACPM 0063*	
Malaspina University-College	ENGL 010 ENGL 025*	MATH 010 MATH 020*	
Nicola Valley Inst. of Tech.			
North Island College	ENG 010 ENG 022 - Spelling ENG 027*	MATH 023, 024, 025*	CPS 025
Northern Lights College	ENGL 020*	MATH 020*	CPST 020
Northwest Community College	ENG 020*	MATH 020	
Okanagan University College	ENG 50 or ENG 51 & ENG 52; ENG 60* or ENG 61 & 62*	MATH 51 & 52, MATH 61 & 62*	
Open Learning Agency	ENGL 002, ENGL 003*	MATH 010 (Adv. Fund. Refresher Math)*	
Selkirk College	LASK 01, LASK 02*	MATH 01, MATH 02*	
UC of the Cariboo	ENGL 030*	MATH 030*	
UC of the Fraser Valley	ENGL 051, ENGL 061*	MATH 051, MATH 061*	COMP 061. EDCP 064
Vancouver Community College	ENG 031	MATH 031	

* = "exit" course for the Fundamental Level.

Mathematics Transfer Guide

INSTITUTION:	INTERMEDIATE	ADVANCED	PROVINCIAL
Camosun College	ABMA 040 & ABMA 050 (A)	MATH 060 or ABMA 060	MATH 114 & 115
Capilano College	BMTH 031 (A)	BMTH 045, BMTH 041 (bus) or MATH 010, MATH 090 & MATH 095	BMTH 046, MATH 011 & 012, MATH 105
College of New Caledonia	MATH 030 (A), MATH 035 (bus)	MATH 044 (dev), MATH 045	MATH 100, MATH 050
College of the Rockies	ABE 070	MATH 080, MATH 081 (bus), MATH 082 (dev), MATH 083 (tec)	MATH 090, MATH 093
Douglas College	DVST 310 (A)	DVST 410 (dev), DVST 411	DVST 412
Kwantlen University College	ACPM 0072 (A), MATH 0092 (A)	ACPM 0082 (A), MATH 0093 (A)	MATH 1112
Langara College		MATH 150 (dev)	MATH 152
Malaspina University-College	MATH 030	MATH 047, MATH 040 (bus), MATH 044 (tec), MATH 041 (dev) MATH 045 & 046	MATH 151 & 152, MATH 067
Nicola Valley Inst. of Tech.	MATH 040 or MATH 041	MATH 050 (dev), MATH 051 (A)	
North Island College	MAT 033 & 034 (A), MAT 033 & 035	MAT 053	MAT 066 & 067
Northern Lights College	MATH 030 (A), MATH 031	MATH 040 MATH 042 (tec)	MATH 050
Northwest Community College	MATH 030 (A), MATH 031, MATH 032	MATH 040, MATH 045 (dev), MATH 041 & 042 (bus)	MATH 050
Okanagan University College	MATH 71 & 72 (A), MATH 71 & 73	MATH 011, MATH 84 & 85 or I ALGE 011 (dev), MATH 84 & 86 (bus), MATH 84 & 87 (tec), MATH 110	MATH 012, MATH 120
Open Learning Agency	MATH 014 (A)	MATH 024, MATH 025 (tec) or MATH 026 (tec)	MATH 034
Selkirk College	MATH 10, MATH 49 (A)	MATH 50, MATH 23 (bus)	MATH 110
University of British Columbia			FN MATH 012
UC of the Cariboo	MATH 040	MATH 050 (dev), MATH 051	MATH 060 & 061
UC of the Fraser Valley	MATH 071(bus), MATH 072 (A)	MATH 084 & 085, MATH 081 (bus)	MATH 094 & 95, MATH 110

(A) = Algebra option in Intermediate level; (bus) = business/consumer math; (tec) = technical math; (dev) = developmental

Mathematics Transfer Guide (continued)

INSTITUTION	INTERMEDIATE	ADVANCED	PROVINCIAL
Vancouver Community College	MATH 050 & 051 (A), MATH 052 & 053 (bus)	MATH 061 & 071, MATH 062 & 072 (bus), MATH 063 & 073 (tec)	MATH 083 & 093
Native Education Centre	MATH 050 & 051 (A)	MATH 061 & 071 (A), MATH 062 & 072 (bus), MATH 061 & 071 (dev)	MATH 083 & 093
Yukon College	MATH 030	MATH 050	MATH 060

(A) = Algebra option in Intermediate level; (bus) = business/consumer math; (tec) = technical math; (dev) = developmental

General & Applied Science Transfer Guide

INSTITUTION	INTERMEDIATE	ADVANCED	PROVINCIAL
Camosun College	ABSCI INTER		
Capilano College	B SCI 032	BESC 041	
College of New Caledonia	SC 030, SC 035		
College of the Rockies	SCIE 070		
Douglas College	DVST 370	DVST 470	
Kwantlen University College	ACPS 0074	ACPS 0084 (not offered)	
Langara College			
Malaspina University-College	SC 030	SC 040, SC 044, SC 047	
Nicola Valley Inst. of Tech.			
North Island College	SCI 045, SCI 031		
Northern Lights College	SCI 030	SCIE 040	
Northwest Community College	SCI 030		
Okanagan University College	SC 70	SC 80, Science and Tech 011	
Open Learning Agency	SCIE 010	EASC 024	
Tl'azt'en Nation		FOSC 020	FOSC 030
Selkirk College	SC 10		
UC of the Cariboo	SINC 040	SINC 050	
UC of the Fraser Valley	BIOL 071, CHEM 071		
Vancouver Community College	SC 051	SC 061 & SC 071	
Native Education Centre	SC 051	SC 061 & SC 071	
Yukon College			

Biology Transfer Guide

INSTITUTION:	ADVANCED	PROVINCIAL Human Biology	PROVINCIAL Ecology*
Camosun College	BIOL 060	BIOL 080	
Capilano College	BIO 041	BIO 042	
College of New Caledonia	BIO 045	BIO 050	
College of the Rockies	BIO 080	BIO 090	
Douglas College	DVST 472 & 473		
Kwantlen University College	ACPB 0086	ACPB 0096	
Langara College			
Malaspina University-College	BIO 047	BIO 067, BIO 111 & 12	
Nicola Valley Inst. of Tech.	BIO 50		
North Island College	BIO 051	BIO 060	
Northern Lights College	BIO 040	BIO 050	
Northwest Community College	BIO 040	BIO 050	
Okanagan University College	BIO 011	BIO 012	
Open Learning Agency	BISC 023	BISC 030	
Selkirk College	BIO 50	BIO 51	
UC of the Cariboo	BIO 050	BIO 060	
UC of the Fraser Valley	BIO 083, BIO 083A	BIO 093	
Vancouver Community College	BIO 061 & 071	BIO 083 & 093	
Native Education Centre	BIOL 061 & 071	BIOL 083 & 093	
Yukon College	BIOL 050	BIOL 060	

* The Ecology path at the provincial level has been approved and is under construction.

Chemistry Transfer Guide

INSTITUTION	ADVANCED	PROVINCIAL
Camosun College	CHEM 060	CHEM 080
Capilano College	B CHM 041	B CHM 042
College of New Caledonia	CHE 045	CHE 050
College of the Rockies	CHEM 080	CHEM 090
Douglas College		
Kwantlen University College	CHEM 0094	CHEM 1105
Langara College		
Malaspina University-College	CHE 047	CHE 067
Nicola Valley Inst. of Tech.		
North Island College	CHE 051	CHE 060
Northern Lights College	CHEM 040	CHE 050
Northwest Community College	CHEM 040	CHE 050
Okanagan University College	CHE 011	CHE 012
Open Learning Agency	CHEM 024	
Selkirk College	CHE 50	
UC of the Cariboo	CHEM 50	CHEM 60
UC of the Fraser Valley	CHE 083	CHE 093
Vancouver Community College	CHEM 061 & 071	CHEM 083 & CHEM 093
Native Education Centre	CHEM 061 & CHEM 071	CHEM 083 & CHEM 093
Yukon College	CHEM 50	CHEM 60

Physics Transfer Guide

INSTITUTION:	ADVANCED	PROVINCIAL
Camosun College	PHYS 060	
Capilano College	PHYS 041	PHYS 042
College of New Caledonia	PHYS 045	PHYS 050
College of the Rockies	PHYS 080	PHYS 090
Douglas College	DVST 476	
Kwantlen University College	ACPP 0088	PHYS 1100
Langara College		
Malaspina University-College	PHYS 047	PHYS 067
Nicola Valley Inst. of Tech.		
North Island College	PHY 050	PHY 060
Northern Lights College	PHYS 040	PHYS 050
Northwest Community College	PHYS 040	PHYS 050
Okanagan University College	PHYS 011	PHYS 012
Open Learning Agency	PHYS 024	PHYS 034
Selkirk College	PHYS 50	
UC of the Cariboo	PHYS 050	PHYS 060
UC of the Fraser Valley	PHYS 083	PHYS 093
Vancouver Community College	PHYS 061 & PHYS 071	PHYS 083 & 093
Native Education Centre	PHYS 061 & PHYS 071	
Yukon College	PHYS 050	

Social Sciences Transfer Guide

INSTITUTION	INTERMEDIATE	ADVANCED	PROVINCIAL
Camosun College			PSYC 080
Capilano College	BSOC 031	BSOC 041 BESC 041	BHIST 042, BGEO 042
College of New Caledonia	CNST 030		
College of the Rockies	SOST 070	SOST 080	HIST 090, GEOG 090, Social Psychology 090
Douglas College			
Kwantlen University College			
Langara College			
Malaspina University-College	SOST 030	SOST 047	HIST 067, GEOG 067
Nicola Valley Inst. of Tech.			
North Island College	SOC 030	SOC 050	GEO 060, HIS 060, FNS 065
Northern Lights College	SOST 030	SOST 040	GEOG 050, HIST 050
Northwest Community College	SOSC 030	SS 040	GEOG 050, HIST 050
Okanagan University College	SS 70	SS 011	EC 012, HIST 012, GEOG 012, LAW 012
Open Learning Agency	SOST 010	SOST 028, SOST 024	HIST 030, FNST 030, GEOG 030, FNST 040
Prince George Native Friendship Centre	PGSS 010		PGGE 030
Tl'azt'en Nation		PSYC 024	
Selkirk College	SOST 049, SOST 10	SOST 050	HIST 051
UC of the Cariboo	SS 040	SOST 011	SS 060
UC of the Fraser Valley	SS 071, SS 072	SS 082	SS 090, Humanities 090
Vancouver Community College	SOC SC 051	ENG 098 & 099, FNST I & II (061-071)	EC 094 & 095, PSY 081 & 091, GEOG 094 plus 095 or 098 (2 for credit), HIST 095 plus 094 or 098 (2 for credit), LAW 082 & 092
Native Education Centre	FNS 051	FNS I & II	FNS 081 & 091, SOC 081 & 091
Yukon College			

GENERIC TOPIC OUTLINES

COMPUTER STUDIES

Computer Studies: Fundamental Level - Computer Skills

Goal Statement

Computers are increasingly becoming a pervasive part of daily life in personal, work and educational situations. Computer skills are introduced at the fundamental level to help students gain the confidence to perform basic computer operations.

Core Skills

The students will be able to demonstrate the following skills:

A. Keyboarding
- use correct touch typing techniques and procedures for letters but not for top row numbers/symbols
- achieve a typing speed of 10 wpm, or alternatively a speed equal to their handwriting speed

B. Basic Knowledge of Computers
- list the basic parts of a computer system (system unit, monitor, keyboard, mouse, floppy disk drive, hard disk drive and printer)
- demonstrate the ability to properly start and shut down a computer system
- demonstrate the ability to start and close a program
- describe a diskette and its care and limitations
- describe some common uses of computers in society
- use a mouse
- demonstrate the ability to operate a printer (power on, put on line/off line and load paper)

C. Word Processing
- create a new word processing document
- edit a document
- save a document to a disk
- print a document
- retrieve a document from a disk
- use tools such as a spell checker or thesaurus

D. Electronic Communication
- introduction to the Internet/World Wide Web
- email

Computer Studies: Intermediate Level - Computer Skills

Goal Statement

Computers are increasingly becoming a part of daily life in personal, work and educational environments. The goal of an Intermediate Level computer course is to introduce adult learners to the use of the computer as a tool so that they will become more self-confident and therefore able to function more efficiently with a computer.

Core Skills

Students will be able to demonstrate the following learning outcomes:

A. Keyboarding
- introduce correct touch typing techniques and procedures
- achieve a typing speed of 20 wpm

B. Introduction to Computers
- list the basic parts of a computer system (system unit, monitor, keyboard, mouse, floppy disk drive, hard disk drive and printer)
- demonstrate the ability to properly start and shut down a computer system
- demonstrate the ability to launch and terminate an application program
- describe a diskette and its care
- develop an appreciation of the evolution of computer technology and the range of applications in society
- describe commonly used computer terminology and acronyms
- describe the difference between hardware and software
- use a mouse
- demonstrate the ability to operate a printer (power on, put on line/off line and load paper)

C. Operating System
- describe the basic operations of an Operating System (launching applications programs and managing system resources)
- demonstrate the ability to correctly name and locate files
- demonstrate the ability to perform basic file operations using the operating system (copy, move, erase and rename)

D. Word Processing
- create a new word processing document
- edit a document, including cutting and pasting text
- print a document
- save a document to a disk
- retrieve a document from a disk
- use tools such as a spell checker or thesaurus
- format a page using basic page layout properties (margins, justification, boldfacing and line spacing)
- demonstrate the ability to use help features and tutorials

E. Electronic Communications
- introduction to the Internet/World Wide Web
- email

F. Options
- importing information from other sources such as graphs, graphics, spreadsheets, databases and the Internet
- perform basic spreadsheet and database operations
- prepare and deliver a presentation using a computer

Computer Studies: Advanced Level

Goal Statement

The goals of Computer Studies at the Advanced Level are:

a) to provide students with a survey of the major applications of computers;
b) to develop an understanding of computers and concepts to aid the students' employment opportunities, personal productivity, and enjoyment;
c) to enable the student to acquire skills to contribute to, and participate productively in society.

An Integrated Resource Package containing learning outcomes, suggested instructional and assessment strategies and suggested resources has been developed for use in Advanced Level Computer Studies.

Learning Outcomes

1. Hardware

A. Computer System Overview

It is expected that learners will be able to:
1. identify, name and describe basic components of a computer system:
   a) system unit
   b) memory and secondary storage devices
   c) input and output devices

B. System Unit Components

It is expected that learners will be able to:
1. identify, name and describe basic components of a computer system unit:
   a) motherboard
   b) expansion slots and buses
   c) Central Processing Unit (CPU)
   d) memory (RAM)
   e) peripheral connections (parallel, serial, SCSI, USB)

C. Memory and Secondary Storage

It is expected that learners will be able to:
1. identify, name and describe Secondary Storage Devices, including:
   a) floppy disks
   b) hard disks (fixed and removable)
   c) optical and magneto-optical storage devices (e.g. CD-ROM, DVD)
   d) tape drives
2. recognize and use capacity descriptors (KB, MB, GB, TB)
3. describe proper floppy disk handling procedures and care
4. distinguish between and describe the function of RAM, ROM, BIOS, CMOS, virtual memory and cache.

D. Input and Output

It is expected that learners will be able to:
1. identify, name, describe, and distinguish among input and output devices (and associated software):
   a) keyboard, pointing devices, scanners
   b) video adapters and displays (CRT, LCD)
   c) printers (various types)
   d) voice
   e) describe how various input and output devices can be used to assist people with disabilities

2. Operating a Microcomputer

It is expected that learners will be able to:

1. distinguish between System Software, Utility Software and Application Software and describe the purpose of an operating system
2. differentiate among various commonly used operating systems
3. employ operating system(s) to perform basic operations of disk and file management.
   a) state the rules and conventions of file naming
   b) employ wildcard characters in file management
   c) organize files on storage devices and designate drives, folders and files
   d) perform management functions to locate, list, display properties of, copy, rename, move, (un)delete folders and files
   e) describe (sectors, tracks, index) and perform disc formatting
   f) recognize a variety of common program and data file types and their associated extensions
4. describe the problem of computer viruses and methods to detect and remove them
5. demonstrate care, maintenance, and protection of computer equipment

3. Computers in Society

It is expected that learners will be able to:

1. identify the effect of computers on their everyday lives (e.g. databases-subscription lists, ATMs, the Internet, computer record systems, income tax)
2. give examples of how computers are affecting career opportunities
3. trace the history of computer technology and identify current trends
4. state the purchasing considerations from the perspective of an informed consumer (e.g. warranty, service, licensing, needs assessment, market trends)
5. provide examples of ethical issues involving computers in society, such as protection of privacy and copyright

4. Word Processing

It is expected that learners will be able to:

1. perform basic operations of word processing:
   a) create a word processing document and save it to a specified disk and directory
   b) select any amount of text and format the character attributes
   c) format the indentation, the alignment, and the spacing of paragraphs
   d) identify non-printing characters (space, tab, new line, new paragraph) as displayed on the screen
   e) move, copy, and delete text
   f) insert a page break into a document
   g) use footnotes/endnotes
   h) use the find and the replace functions
   i) use the spell checker/thesaurus
   j) insert a graphic into a document
   k) set page margins
   l) use headers and footers (including page numbering, filename, and date codes)
   m) preview and print a document
   n) recognize different document output devises (printers and faxes)
   o) recognize that different file formats originating from different word processors and versions may be incompatible, requiring file conversion routines

5. Spreadsheets

It is expected that learners will be able to:

1. perform basic spreadsheet operations:
   a) enter and format data (numbers, text, data series)
   b) create simple formulas (using basic operators and functions)
   c) copy or move data and/or formulas, utilizing absolute and relative cell addresses and ranges
   d) change cell characteristics (column widths, alignments, fonts, etc.)
   e) control page layout such as orientation, scaling, grid lines
2. use a spreadsheet to predict outcomes based on specific parameters (e.g. mortgages, investments, financial forecasting and planning)
3. create several kinds of charts based on spreadsheet data

6. Internet

It is expected that learners will be able to:

1. describe the basic structure and functioning of the internet and define current terminology such as URL, ISP, WWW, and backbone
2. describe the various options for computer connectivity (e.g. cable modems, ISDN, XDSL)
3. send and receive e-mail using proper etiquette
4. use a web browser to access and navigate through a web site
5. use search engines to locate and bookmark information
6. save text and graphical information from a web site
7. describe how business is conducted on the internet, including security issues

7. Graphics Applications

It is expected that learners will be able to:

1. create and manipulate a graphic image (e.g. Paintbrush, Draw, CAD)
2. differentiate between various bit-mapped and vector-based graphic file formats (e.g. .BMP and .TIF)

8. Integration of Applications

It is expected that learners will be able to:

1. combine data/files from various applications (e.g. mail merge, importing spreadsheet data and charts into a document, inserting a graphic image

Options

1. Databases

It is expected that learners will be able to:

1. describe the structure of a database: records, fields, and key fields
2. perform simple database procedures:
   a) design a form
   b) enter, edit and format data
   c) examine, manipulate records in different views; delete and insert records; sort records in different ways
   d) format, insert, move, hide and un-hide fields
   e) design, create, and print a report consisting of selected fields
3. search and query a database for information based on specified parameters

2. Computer Programming

It is expected that learners will be able to:

1. create simple programs in a given programming language such as BASIC or Visual Basic
2. describe the purpose of compilers and/or interpreters
3. create and make use of computer designs or algorithms
4. write basic input, processing and output instructions

3. Touch Typing

It is expected that learners will be able to:

1. significantly increase their typing speed
2. demonstrate proper keyboarding techniques

Computer Studies: Provincial Level - Computer Applications

Goal Statement

The goals for the Provincial Level Computing Studies are:

a) to develop problem solving/critical thinking skills utilizing computer application software as a tool. Towards this end, project work will be emphasized.
b) to build on computer software skills and outcomes as described by the learning outcomes of the advanced level computing studies.

Learning Outcomes

Because of the wide and ever expanding nature of computing applications, it is both impossible and undesirable to include all outcomes in a single course. A computing studies course at the provincial level will consist of a minimum of two from the following categories:

1. Information Technology

It is expected that the learner will be able to:

- identify/explain/demonstrate how communications hardware and software function
- send, receive and organize mail and file attachments
- demonstrate proficient use of the Internet including:
  i) understanding how the Internet was developed and how it functions
  ii) use of a WWW browser
  iii) search techniques using one or more search engines
  iv) downloading files
  v) participation in one or more newsgroups
  vi) HTML (hypertext markup language)
  vii) demonstrate an awareness of ethical and security issues

2. Publishing/Presentation

Learning outcomes shall be applied to one or more of the following:

i) advanced word processing
ii) desktop publishing
iii) World Wide Web (HTML) publishing
iv) multimedia presentation

It is expected that the learner will be able to:

- organize and present a variety of text, graphic and other data (e.g. animation and sound), following appropriate design and layout procedures
- demonstrate the use of templates, "wizards" and other productivity tools
- merge documents and integrate tables, charts and graphics
- know the various file formats used for text, graphics, sound, animation and publication files
- demonstrate the ability to change file formats where possible
- create, modify and manipulate digital graphic images (e.g. scan, draw, paint)
- retrieve a graphic/animation/sound file through using either CD-ROM or the Internet
- apply, where appropriate, correct typographic principles involving font selection, point size, justification, kerning, bullets, headers and footers
- generate links, cross references, footnotes, indexes and tables of contents where appropriate

HTML Option: learn and be able to apply Java Script to HTML documents.

3. Advanced Spreadsheets

It is expected that the learner will be able to:

- enter, format and edit data
- use and write formulas
- create and modify charts
- create reports
- manage and analyze data
- create macros or use a programming language to customize a spreadsheet
- design a spreadsheet to analyze, interpret and project outcomes in an applied situation

4. Database Management

It is expected that the learner will be able to:

- design and create flat file and relational databases
- maintain and modify the structure of existing databases
- correctly formulate queries
- create and edit forms
- create and edit reports
- be aware of various social and ethical issues involving databases

5. Networking

The learner will be able to:

- state advantages and disadvantages of using networks
- describe different network configurations (printer network, LAN, WAN, etc.)
- describe and diagram different network topologies (point-to-point, star, bus, etc.)
- describe the advantages and disadvantages of different network data transmission media (twisted pair, coaxial cable, optical fibre, and wireless)
- list and describe common network operating systems and network protocols
- describe various server models, including file servers and client/server systems
- list Internet/intranet similarities and differences
- describe management issues, including traffic analysis and security

6. Programming*

***A Note of Caution:** The Programming option must not be considered as equivalent to or as a replacement for the Computer Science course articulated at the provincial level.

This option introduces the learner to programming fundamentals. The learner will write programs in a high level language that demonstrate output only and input-process-output operations. While the emphasis of the Computer Science course is software engineering, this option focuses primarily on the elements of programming.

It is expected that the learner will be able to:

- test, debug and modify program code
- define data types and assign meaningful identifiers to constants and variables
- use input statements to access the keyboard and use output statements to display text and graphics
- use conditional expressions to alter program flow
- use iteration structures to create loops
- write simple procedures
- write programs to demonstrate mathematical processing and simple character and graphic manipulations

Computer Science: Provincial Level

Goal Statement

The goals for the provincial level Computer Science course are:

a) to develop problem solving skills whereby the student is able to analyze a problem, devise an algorithm or process to solve the problem, use this process to write a computer implementation of the solution and to test the solution;

b) to adequately prepare students for a career or program of studies where logical thought and structured design processes are required.

Generic Topic Outline

Core Topics

A. Software Engineering (Problem Analysis and Design of Solution)

Given a problem suitable for a computer programming solution, the student shall:

a) analyze the problem so that it is clearly understood;
b) identify the inputs, outputs and appropriate data structures;
c) break down the solution of the problem into component modules;
d) design the structure of each module, documenting it in structured English, using a method such as pseudo-code or top-down charts. It shall describe in detail all inputs, processes or algorithms used and format of outputs;
e) design an appropriate user interface;
f) produce computer source code as a software design implementation. A structured high level language will be used. Differences between source code and machine code will be understood;
g) test, debug and modify program code until error free;
h) document the solution, both internally and externally.

B. Elements of a programming language

The student shall demonstrate knowledge of the following program elements through use of a high level programming language:

a) data types (including Integer, Real, Boolean, Character and String) and their representation as bits and bytes;
b) meaningful identifier names for constants, variables, procedures (or subroutines) and programs;
c) the process of breaking down a computer program into a series of subprograms directly corresponding to the modules identified in the software design. The subprograms shall be written as procedures, functions, subroutines and the like;
d) the advantages and disadvantages of, and differences between global variables, local variables and parameters. The scope of variables and the occurrence of side effects shall be explained;
e) input and output statements shall access the keyboard, printer, disk and disk files while output devices are the monitor, printer and disk files;
f) arithmetic expressions using the addition (+), subtraction (-), multiplication (*), and division (/, DIV and MOD) operators as applied to real and/or integer operands. Includes order of operation (including use of parentheses) and use of the assignment operator (: = or =);
g) string and character manipulation and processing. Use of substrings, concatenation and other language-specific program features;
h) built-in and programmer-defined functions and constants. Existence of the built-in PI constant;
i) conditional expressions used to alter program flow. (e.g. If...Then...Else or case structures). Included in this is use of the relational operators (=, < >, >, <, >=, and <=) the logical operators (AND, OR, NOT) and Boolean variables (True/False) and nested conditional statements (e.g. If...Then...Else...If...Then);
j) iteration structures (e.g. For...Do, While...Do and Repeat...Until). Definite (e.g. For...Do) vs Indefinite (e.g. While...Do and Repeat...Until) loops. Nested loops. Avoidance of infinite loops;
k) one and two dimensional arrays.

Career Preparation

Goal Statement

The goal of Education and Career Planning is to prepare adult learners with life and employment readiness skills. Students will be prepared to pursue individual occupational and/or educational goals within a changing and diverse world.

Generic Topic Outline

Education and Career Planning involves the development of a broad range of core skills. These skills are appropriate for Intermediate, Advanced and Provincial levels. Of the nine skill areas listed, 1 and 2 are considered CORE as well as five of the remaining seven. While suggestions for specific topics are provided for each major skill area, it is recognized that the exact content of courses may vary.

Core Skills

1. Communication Skills

   Students will:

   - identify and practice active listening skills in a variety of situations
   - demonstrate a knowledge of the range of effective speaking strategies
   - extract and assess information from visual media
   - acknowledge and recognize cross-cultural styles in communication
   - interpret non-verbal communication cues
   - develop and apply effective writing processes in a variety of contexts

2. Career Exploration Skills

   Students will:

   - discover interest patterns related to career paths
   - undertake occupational research
   - evaluate aptitudes related to career paths
   - investigate and develop a personal network
   - participate in a work experience

3. Study Skills / Time Management

   Students will:

   - recognize how their personal learning style affects the way they perceive and process information and will be able to develop strategies to effectively work in all four styles
   - identify and practice reading skills necessary to gather information effectively using techniques of active reading and will identify techniques of previewing and reviewing college-level materials
   - develop and apply effective note-taking strategies
   - identify strategies for effective time management including the use of time grids and long-term planning devices
   - identify and use a variety of memory techniques and strategies to recall what they read and study
   - perform basic tasks in word processing, databases and spreadsheets
   - describe personal responsibilities as students in a college atmosphere

4. Interpersonal Skills

   Students will:

   - examine group process and practice the skills necessary for successful group experiences
   - review problem solving models and using those models develop decision making strategies
   - research the various methods of conflict resolution and demonstrate their use
   - clarify the definition of assertiveness and implement successful techniques
   - analyze the reasons for bias and develop the ability to recognize it in everyday situations
   - identify issues around gender and practice interpersonal skills with awareness of and sensitivity to gender assumptions

5. Personal Skills

   Students will:

   - recognize how personal self-esteem is a life long process
   - recognize personal feelings and their influence
   - employ strategies to deal with anger
   - assess and manage stress
   - analyze and utilize time management strategies
   - explore and connect personal assumptions with behaviour
   - clarify personal values and their impact on choices

6. Living Skills

   Students will:

   - design and implement a personal budget
   - formulate financial planning for the future
   - investigate varying nutrition systems and weigh against own personal health
   - assess individual health strengths and concerns
   - explore addiction education
   - investigate and utilize community resources
   - strengthen personal support system and advocacy options
   - obtain various first aid certificates
   - question and study self-defence skills

7. Job Preparation

   Students will:

   - plan the major steps of the job search process
   - clarify the rules of a good resume and design an efficient one
   - identify and practice the best way to conduct oneself in answering questions during an interview
   - identify, choose and make different types of cover letters corresponding to the job search
   - select job search strategies
   - recognize and implement entrepreneurial ideas and strengthen the needed skills
   - strengthen ongoing support and resource networks to maintain future job search

8. Educational Plan

   Students will:

   - demonstrate the ability to set short and long term educational and career goals
   - familiarize themselves with student support services
   - access and extract information from academic calendars

9. Diversity

   Students will:

   - look beyond themselves and investigate the various types of relationships and interactions they have, or will have, with others
   - identify methods of developing positive relationships, including effective communication techniques
   - be aware of gender and equity issues
   - appreciate the diversity of relationships in Canadian society

Directions to Submitters of Courses

A generic form should be used and received by the chair of the working committee one month before the meeting. The form needs to list 1 and 2 as CORE skills as well as five of the remaining seven for EDCP; proposal submissions will identify how these core skills are met.

ENGLISH

Goal Statement

Mastering English is an ongoing process that involves a variety of core skills. The development of these skill is a continuum. Consequently, many of the core skills are basic to all levels. As students progress, *they* will be expected to apply these skills to more difficult materials and tasks at each subsequent level. All skills listed here are considered to be core, with the exception of the literary study at the Advanced Level, which is a suggested topic.

English students are also expected to acquire the communication skills that will provide them with the foundation to get, keep, and progress in a job. The set of outcomes at the Provincial Level designated 'B' was chosen to specifically address communication skills required in the work place. These skills include reading, comprehending, and using visual materials (i.e. graphs, charts and displays), effective writing, listening and speaking, critical thinking, and participating in group work.

Students who have completed Advanced Level work will have the skills necessary to enter Provincial Level courses and vocational, career, and technological programs which require English 12 prerequisites.

ABE instructors are expected to use an integrated and holistic approach to reading, writing, speaking, and listening skills. These skills are also part of career preparation.

An Integrated Resource Package (IRP) containing learning outcomes, suggested instructional and assessment strategies, and suggested resources has been developed for use in Intermediate and Advanced Level English.

Intermediate Level

Learning Outcomes

1. Critical Thinking

Critical thinking applies to all of the learning outcome areas. Good critical thinking skills enhance all other communication skills.

a) recall and interpret information literally
   i) identifying subject/topic, main ideas, supporting ideas, and sequence
b) summarize information
c) make inferences
   i) using prior knowledge
   ii) synthesizing information
   iii) evaluating information for accuracy, relevance, and importance
   iv) distinguishing fact from opinion
   v) recognizing underlying assumptions (bias and tone)
   vi) identifying purpose and audience
d) compare and contrast
e) classify
f) define
g) think creatively
h) draw conclusions
i) respond to information creating solutions, identifying impact of solutions, and modifying solutions (problem solving)

2. Oral/Aural Communication

Oral communication skills are practiced at the Intermediate and Advanced level to enable students to participate fully in society.

Applied oral communications skills include the ability to:

a) ask questions to clarify meaning
b) take messages
c) use voice appropriately and effectively
d) demonstrate effective listening skills
e) actively participate in conversations and group discussions
f) use verbal language and body language in ways appropriate in style, tone, and level of complexity to the audience and the occasion
g) respond appropriately to listener feedback
h) paraphrase
i) summarize
j) deliver an effective oral presentation to inform or persuade
k) interview and be interviewed for information
l) provide useful and appropriate oral feedback in a variety of situations (peer editing, group discussion, classroom participation, etc.)

3. Reading, Research, Reference

Reading skills are developed in conjunction with writing and speaking skills. Students should read to understand periodicals, reports, technical materials, and literature.

a) use context clues and word structure analysis (i.e. prefix, suffix, root)
b) recognize homonyms, antonyms and synonyms
c) use both a dictionary and a thesaurus for expanding vocabulary
d) read to locate specific information
e) use standard reference materials (dictionaries, encyclopedias, thesauruses, catalogues, operating manuals, CD-ROMs, Internet)
f) use in-book reference tools (index, table of contents, glossary)

g) read quickly for main ideas only, use skimming and scanning techniques for rapid overview of the nature and content of material and for locating detailed information
h) develop skills in outlining, memorizing, exam-taking and note-taking
i) paraphrase ideas
j) recognize illogical argument, fallacies, stereotypes, bias and propaganda
k) identify point of view
l) define and avoid plagiarism
m) critically read a book

4. Written Communication

Grammar and Spelling

a) use correct grammatical structure and punctuation
b) edit for grammar
c) develop spelling strategies

The Writing Process (prewrite, draft, revise, edit)

a) gather ideas, define and narrow the topic, evaluate, select and order material into an organized paragraph, essay, summary, report, and business letter
b) adjust content and style of writing to suit purpose, audience and situation. For example, write business letters, letters of application, resumes, and memos
c) revise and edit work to improve content organization, word choice, phrasing, sentence and paragraph structure, spelling, punctuation, and mechanics
d) write narrative and descriptive, and explanatory and persuasive (expository) pieces
e) evaluate a book, movie, play, television program, documentary, or piece of music, and write a review
f) produce immediate writing on demand: business writing with minimum preparation time, LPI prep, GED prep (exams), etc.

5. Co-operative Communication

Applied communication skills include the ability to function in a variety of settings and in differing roles.

a) establish co-operative working relationships with others
b) recognize and respect diversity and individual differences
c) recognize non-verbal cues
d) recognize workplace customs
e) problem-solve
f) build consensus
g) resolve conflict
h) establish goals and priorities
i) prepare and follow schedules
j) respond appropriately to thoughts, opinions, and work of others
k) challenge assumptions and traditions constructively

6. Media Literacy

Much communication in today's world is via film, video, and graphic presentation. Dealing with these powerful communication tools requires special skills.

a) identify and track a theme, topic, or specified content from a variety of media
b) take notes, organize notes, and write summaries
c) interpret common graphics (graphs, charts, tables)
d) identify and discuss examples of fact and of opinion
e) exhibit a critical awareness of media messages (e.g. TV ads, billboards, corporate sponsorship, videos, brochures and pamphlets)
f) recognize the structural differences and impacts upon audiences of various media presentations (TV vs print news, etc.)

7. Computer Literacy

Computers have become vital to effective communications in today's society. This section is strongly recommended for inclusion in the curriculum.

a) use computer hardware and peripherals (keyboard, mouse, printer, etc.)
b) use word processing software including spell check and thesaurus, and import information from other sources (e.g. spreadsheets and data bases)
c) communicate effectively using electronic mail

Advanced Level

Learning Outcomes

1. Critical Thinking

Critical thinking applies to all of the learning outcome areas. Good critical thinking skills enhance all other communication skills.

a) recall and interpret information literally
   i) identifying subject/topic, main ideas, supporting ideas, and sequence
b) summarize information
c) make inferences
   i) using prior knowledge
   ii) synthesizing information
   iii) evaluating information for accuracy, relevance, and importance
   iv) distinguishing fact from opinion

v) recognizing underlying assumptions (bias and tone)
vi) identifying purpose and audience

d) compare and contrast
e) classify
f) define
g) think creatively
h) draw conclusions
i) respond to information creating solutions, identifying impact of solutions, and modifying solutions (problem solving)

2. Oral/Aural Communication

Oral communication skills are practiced at Advanced levels to enable students to participate fully in society.

Applied oral communications skills include the ability to:

a) ask questions to clarify meaning
b) take messages
c) use voice appropriately and effectively
d) demonstrate effective listening skills
e) actively participate in conversations and group discussions
f) use verbal language and body language in ways appropriate in style, tone, and level of complexity to the audience and the occasion
g) respond appropriately to listener feedback
h) paraphrase
i) summarize
j) deliver an effective oral presentation to inform or persuade
k) interview and be interviewed for information
l) provide useful and appropriate oral feedback in a variety of situations (peer editing, group discussion, classroom participation, etc.)

3. Reading, Research, Reference

Reading skills are developed in conjunction with writing and speaking skills. Students should read to understand periodicals, reports, technical materials, and literature.

a) use context clues and word structure analysis (i.e. prefix, suffix, root)
b) recognize homonyms, antonyms and synonyms
c) use both a dictionary and a thesaurus for expanding vocabulary
d) read to locate specific information
e) use standard reference materials (dictionaries, encyclopedias, thesauruses, catalogues, operating manuals, CD-ROMs, Internet)
f) use in-book reference tools (index, table of contents, glossary)
g) read quickly for main ideas only, use skimming and scanning techniques for rapid overview of the nature and content of material and for locating detailed information
h) develop skills in outlining, memorizing, exam-taking and note taking
i) paraphrase ideas
j) recognize illogical argument, fallacies, stereotypes, bias and propaganda
k) identify point of view
l) define and avoid plagiarism
m) critically read a book
n) recognize and define business and technical terms common to industry
o) explain business, scientific and/or technical information from text
p) apply research skills to more complex tasks and difficult materials
q) use library cataloguing system
r) use quotation properly from secondary sources
s) prepare a list of works cited
t) identify and critically discuss literary elements in writing, audio and visual material: plot, theme, character, setting, conflict
u) critically evaluate a book, movie, play, television program, documentary or piece of music and write a review
v) use documentation styles (APA, MLA, Chicago)

4. Written Communication

Grammar and Spelling

a) use correct grammatical structure and punctuation
b) edit for grammar
c) develop spelling strategies
d) use parallel construction and correct misplaced or dangling modifiers
e) use complex sentence structure
f) edit for grammar
g) recognize clichés, jargon, slang, and wordiness in sentences

The Writing Process (prewrite, draft, revise, edit)

a) gather ideas, define and narrow the topic, evaluate, select and order material into an organized paragraph, essay, summary, report, and business letter
b) adjust content and style of writing to suit purpose, audience, and situation. For example, write business letters, letters of application, resumes, and memos
c) revise and edit work to improve content organization, word choice, phrasing, sentence and paragraph structure, spelling, punctuation, and mechanics
d) write narrative and descriptive, and explanatory and persuasive (expository) pieces
e) evaluate a book, movie, play, television program, documentary, or piece of music and write a review
f) produce immediate writing on demand: business writing with minimum preparation time, LPI prep, GED prep (exams), etc.

g) write essays of greater length and complexity than at the intermediate level with particular emphasis on expository (explanatory and persuasive) structures
h) write an analytical report responding to some of the following: editorials, magazine articles, technical writings, investigative writings or advertising
i) describe workplace documents: business reports, agendas, memos, E-mail, letters
j) gather research and organize it into a research paper
k) be able to use an approved style guide format
l) identify and critically discuss literary elements in written, audio and visual material: plot, theme, character, setting, conflict
m) critically evaluate a book, movie, play, television program, documentary or piece of music and write a review
n) explain the use of adjuncts to writing, i.e. graphics

5. Co-operative Communication

Applied communication skills include the ability to function in a variety of settings and in differing roles.

a) establish co-operative working relationships with others
b) recognize and respect diversity and individual differences
c) recognize non-verbal cues
d) recognize workplace customs
e) problem-solve
f) build consensus
g) resolve conflict
h) establish goals and priorities
i) prepare and follow schedules
j) respond appropriately to thoughts, opinions, and work of others
k) challenge assumptions and traditions constructively

6. Media Literacy

Much communication in today's world is via film, video, and graphic presentation. Dealing with these powerful communication tools requires special skills.

a) identify and track a theme, topic, or specified content from a variety of media
b) take notes, organize notes, and write summaries
c) interpret common graphics (graphs, charts, tables)
d) identify and discuss examples of fact and of opinion
e) exhibit a critical awareness of media messages (e.g. TV ads, billboards, corporate sponsorship, videos, brochures, and pamphlets)
f) recognize the structural differences and impacts upon audiences of various media presentations (TV vs print news, etc.)

7. Computer Literacy

Computers have become vital to effective communications in today's society. This section is strongly recommended for inclusion in the curriculum.

a) use computer hardware and peripherals (keyboard, mouse, printer, etc.)
b) use word processing software including spell check and thesaurus, and import information from other sources (e.g. spreadsheets and data bases)
c) communicate effectively using electronic mail

Provincial Level

Learning Outcomes

The following learning outcomes provide the framework for developing either a Provincial level English Literature course or a Provincial level Technical and Professional English course. They are to be used in addition to those listed for the Intermediate and Advanced Level courses. The choice of the alternatives, **A** or **B** in sections 3 and 4, depends on whether **A**, literature, or **B**, technical and professional writing, is the focus of the course. Either will fulfill the Provincial Level requirement.

1. Critical and Creative Thinking

- recognize tone, including irony, and understatement in poetry, short stories, drama, or other writing for technical and professional purposes
- evaluate argument for validity, reliability, currency, and objectivity
- recognize structural elements associated with particular standard formats for literary, or technical and professional communications
- employ advanced problem-solving skills through cooperative communications activities (e.g. cooperative team development of business proposal)
- demonstrate an awareness of the power of language in literary, or in technical and professional communications
- demonstrate the importance of language and composition in furthering the problem solving process (initiating, developing, and organizing thought) demonstrate an understanding of how communication formats influence language choices and usage

2. Oral/Aural Communications

- deliver an oral presentation based on research
- speak effectively, adjusting for audience, purpose, and situation to inform, persuade, and interact in formal and informal situations
- effectively give and respond to feedback during oral presentations

- employ a variety of technologies to facilitate and enhance speaking, including telecommunications hardware and software

3. Reading, Research and Reference

- paraphrase, with critical understanding of argument, articles by major authors
- apply knowledge of the influence, writing style, and background of particular authors to understanding of their writings
- use the resources of a library, such as catalogues and indexes, to gather information for research
- access the Internet and other electronic media including CD-ROM files to gather information for research

AND EITHER A OR B

A)

- use appropriately such literary terms as conflict, theme, character, mood, tone, irony, archetype, and setting in analyses of poetry, short stories, and drama
- critically discuss such techniques as foreshadowing, irony, and tone in poetry, short stories, novels, and dramas
- place a piece of literature in its historical context
- evaluate critically the social and personal benefits of reading great literature

B)

- interpret technical and professional information conveyed in graphic and other non-verbal ways
- distinguish between implicit and explicit messages in technical and professional communications
- evaluate the effectiveness of the student's own and other technical and professional presentations using criteria that include the following:
  - plain language
  - coherence and organization
  - consistency in the application of usage conventions
  - relevance to argument of supporting evidence and examples
  - appropriateness to intended purpose and audience
  - attention to detail

4. Written Communication

- edit their own work fully and competently
- use nuance of word choice effectively
- show good transition in written work
- create sentence variety in written work
- use the power of connotative language effectively
- gather information and organize it into a research paper, report, or other assignments

AND EITHER A OR B

A)

- write a literary essay

B)

- create effective technical and professional communications products (reports: proposals, original research reports, secondary research reports, problem solving reports, investigative reports, laboratory reports, progress reports)

5. Cooperative Communication

- explain the value and limitations of collaborative work
- collaborate and consult effectively with others in completing communications tasks through means that include:
  - interacting confidently
  - assuming responsibility for their roles in teams
  - respecting and promoting respect for the contributions of other team members
  - demonstrating a commitment to the team and to project goals
- use a variety of resources and technologies when working with others
- evaluate group processes and individual roles in and contributions to group processes

6. Media Literacy

- see Intermediate and Advanced Media Literacy

7. Computer Literacy

- employ a variety of research tools and resources including Internet search engines, electronic bulletin boards, information sites, and on-line services
- use appropriate software for presentations and research projects
- use technology to support and enhance writing skills, organize information, design page layouts, and develop and incorporate graphs, charts and other illustrative aids into documents

FUNDAMENTAL LEVEL SKILLS

Goal Statement

Adult Basic Education at the Fundamental level is designed to provide students with the skills necessary to cope more effectively in personal, work and educational situations. Although the skills are presented as discrete units, an integrated approach is recommended.

The subject areas described in the Fundamental Level are Coping Skills, English (Reading and Writing) and Mathematics. While Social Studies and Science are not delineated as discrete content areas here, an integrated approach to teaching fundamental skills and strategies incorporates Social Studies and Science content. Such an approach assists learners to acquire a better understanding of themselves, their communities and their participation in Canadian society by using real-life materials, activities and experiences in their studies.

Computers are increasingly becoming a pervasive part of daily life in personal, work and educational situations. Computer skills are introduced at the fundamental level to help students gain the confidence to perform basic computer operations.

Ideally, through the process of upgrading, students integrate skills and strategies and use them in their daily lives. The outcome is improved self-confidence, self-reliance and self-evaluation.

Although no attempt has been made to dictate sequence, delivery mode, or teaching style in this outline, students' personal literacy goals should be reflected in the design of a Fundamental Level program. The topics listed with each core skill are neither exhaustive nor exclusive. Additional information can be found in the Ministry's Adult Basic Education and Literacy Curriculum Guides.

Prerequisites

Ability to speak and understand English.

Fundamental Level Coping Skills

General Statement

The communicative and adaptive skills should enable students to develop effective strategies for interacting with other people in a variety of situations, for problem solving, and for responding to information. It is recommended that instruction of coping skills be integrated with other instructional areas. Informal assessment will indicate whether or not explicit instruction in coping skills is necessary.

I. Communicative Skills - Core Skills

A. Listening & Viewing
   1. establish purposes for listening and/or viewing;
   2. develop literal, interpretive, inferential, and critical comprehension skills;
   3. follow instructions and directions.

B. Speaking
   1. organize thoughts and ideas in terms of purpose, sequence, language and conciseness;
   2. give directions, explanations and instructions;
   3. seek, provide and use information constructively.

II. Adaptive Strategies - Core Skills

Use Community Resources (e.g. library, public agencies)

A. Develop
   1. study skills
   2. time-management skills
   3. goal-setting skills
   4. problem solving skills
   5. test writing skills
   6. awareness of self as learner: learning style, self-monitoring, self-correcting and self-evaluating

B. Demonstrate the following computer skills
   1. Basic Knowledge of Computers
   - list the main (hardware) parts of the computer
   - describe a diskette and its care and limitations
   - describe some common uses of computers in society

   2. Keyboarding
   - use correct touch typing techniques and procedures for letters but not for top row numbers/symbols

- achieve a typing speed of 10 wpm, or alternatively a speed equal to their handwriting speed

3. Word Processing

- create a word processing document
- use simple editing tools including cursor control, backspace-delete, inserting blank lines and spaces into documents, cut and paste sentence fragments and paragraphs
- save a document
- print a document
- retrieve a document from disk
- use tools such as spell checker, thesaurus and/or grammar checker (optional)

Fundamental Level English Skills

English has been divided into two sections: Reading and Writing. While the skills and strategies have been separated, it is clear that they overlap and complement each other.

A. Reading

General Statement

Reading is a dynamic, interactive process. The reader integrates personal knowledge and experience with information from the text to construct meaning. The skills and strategies of reading should be adjusted to accommodate the stages of reading readiness, learning to read and reading to learn. Reading at all levels is facilitated by instruction which presents reading skills and strategies as parts of an integrated process focusing on reading as written communication.

The core skills are:

- Reading Comprehension Skills and Strategies
- Word Analysis Skills/Decoding Strategies

I. Reading Comprehension Skills and Strategies - Core Skills

Using a variety of real life materials including personal experience stories, magazine articles, novels, and short stories, students will develop the following thinking skills and strategies.

- Literal: recalling information
- Interpretive: retelling information
- Inferential: combining information
- Critical: commenting on information

Skills

A. Literal
   1. identify subject/topic, main ideas, supporting details, and sequence

B. Interpretive
   1. reconstruct the meaning intended by the writer
   2. categorize and classify
   3. summarize

C. Inferential
   1. synthesize - integrate experience and knowledge to gain new understandings and to predict

D. Critical
   1. recognize comparison and contrast, cause/effect, outcome or sequence
   2. distinguish between fact and opinion, logical and illogical
   3. identify writer's point of view, tone, attitude and underlying assumptions
   4. develop critical thinking skills, i.e., appreciation, judgment, character analysis

Strategies

Setting Purpose for Reading

A. Previewing/Surveying: initial overview of large sections of text (chapters, etc.)
   1. note headings, titles, overviews
   2. self-questions to activate prior knowledge: What do I already know about this topic?

B. Prereading: overview of shorter sections of text
   1. change headings to questions
   2. self-question: What is the author's purpose? How is the author presenting material? i.e., general to specific, cause-effect, question-answer, problem-solution, compare-contrast

C. Monitoring: evaluation of current level of understanding
   1. self-question: Do I understand what I'm reading? What is the main idea? (Paraphrase in own words.) How does this relate to what I already know?

D. Reflecting: evaluation of comprehension in retrospect
   1. self-question: Did I understand what I just read? What is the main idea? (Paraphrase in own words.) How does this relate to what I already know?
   2. take notes, outline to integrate information

II. Word Analysis Skills/Decoding Strategies

1. develop a sight vocabulary
2. use context clues
3. use the dictionary, glossary and thesaurus as tools for vocabulary development, pronunciation, meaning and spelling confirmation
4. use structural analysis (e.g. roots, affixes, syllabication, stress, compound words, contractions)
5. use phonic skills (short and long vowels, vowel combinations, single consonant and combinations and associated word patterns)
6. develop a personal strategy for learning and remembering new words

B. Writing

General Statement

The writing process should focus on the communication of information and ideas in a variety of practical situations. Skills and strategies are learned formally and informally. Learning tasks will be adapted to the needs of the student.

Core Skills

- Handwriting
- Grammatical Structures
- Punctuation
- Spelling
- Composition

A. Handwriting
   1. students will print/write with ease, legibility and reasonable speed.

B. Grammatical Structures
   In their writing, students will:
   1. correct fragments and run-ons;
   2. use simple, compound and complex sentences;
   3. use standard and irregular verb forms;
   4. use subject-verb agreement and consistent verb tense;
   5. use standard pronoun reference and agreement;
   6. use modifiers effectively.

C. Punctuation
   In their writing, students will:
   1. use capitals;
   2. use end punctuation;
   3. use commas;
   4. recognize quotation marks, semi-colons, colons, hyphens and dashes.

D. Spelling
   Students will:
   1. develop effective spelling strategies such as phonics, structural analysis, generalizations, sight study;
   2. know common irregularly spelled words;
   3. use a dictionary and other spelling aids;
   4. recognize and use homonyms, antonyms and synonyms;
   5. use rules for adding affixes;
   6. form contractions and abbreviations.

E. Composition
   In their writing, students will:
   1. correct and organize ideas using techniques such as language-experience, brain-storming, note taking, outlining and thought-maps;
   2. use paragraph format including topic sentence, supporting details and conclusion;
   3. produce coherent descriptive, narrative and expository paragraphs;
   4. have the opportunity to practice multi-paragraph compositions;
   5. produce personal and business letters using a standard format;
   6. fill out a variety of simple forms;
   7. respond to selected materials after reading, viewing, listening and/or discussion.

Fundamental Level Mathematics Skills

General Statement

Either pictorially or using manipulatives, students should be able to demonstrate a conceptual understanding of basic arithmetic operations. Students are to apply the mathematical concepts learned to problem-solving in real life situations.

It is felt by this articulation committee that calculators are a part of daily life. Therefore, after mastery of number facts has been demonstrated or on proof of special needs (e.g. learning disability), calculators may be used at the Fundamental Level.

Core Skills

- Estimation*
- Problem Solving*
- Whole Number Operations
- Operations with Decimals
- Operations with Common Fractions
- Percent
- Measurement

***Estimation and problem solving are essential to all the other core skills.**

A. Estimation
   1. learn to estimate quantities
   2. understand the importance of estimating answers to questions and problems

B. Problem Solving
   1. at all levels of mathematical skill, students will apply their skills to appropriate word problems
   2. mathematical concepts should be applied to real life situations. Examples are: handling money, banking, unit pricing and comparison shopping, interest/credit payments

C. Whole Number Operations
   1. number readiness
   2. identify place value to millions
   3. read and write numbers to millions
   4. estimate and accurately compute in
      a) addition
      b) subtraction
      c) multiplication
      d) division

D. Operations with Decimals
   1. identify place value to ten-thousandths
   2. read and write decimal fractions to ten-thousandths
   3. round off decimal numbers to a given place
   4. compare decimal fractions to common fractions and change from one to the other
   5. using decimal numbers up to the thousandths place, estimate and accurately compute in:
      a) addition
      b) subtraction
      c) multiplication
      d) division

E. Operations with Common Fractions
   1. understand fractions as part of a whole
   2. using like, unlike fractions and/or mixed numbers, estimate and accurately compute in:
      a) addition
      b) subtraction
      c) multiplication
      d) division

F. Percent
   1. understand percent as a fraction
   2. compare percent to common fractions and decimal fractions and change from one form to another
   3. understand ratio as a simple form of the relationship between two numbers or quantities
   4. understand proportion as a statement of equivalence between two ratios
   5. determine if a proportion is true
   6. express the relationship of two amounts by means of percentage
   7. calculate the percentage of a number
   8. using percentage calculations, solve problems in discount, increase, simple interest, commission and tax

G. Measurement
   1. Metrics
      a) understand metric system
      b) understand metric units
      c) convert within metric system
   2. Temperature
   3. Time
      a) add and subtract with units of time
   4. Simple geometric shapes
      a) find area and perimeter of squares and rectangles
   5. Graphs
      a) obtain information from graphs

Mathematics: Intermediate Level

Goal Statement

The goal of Intermediate Mathematics is to enable adult learners to acquire mathematical knowledge, skills, and strategies needed to enter appropriate higher level courses or to satisfy personal or career goals.

An Integrated Resource Package containing learning outcomes, suggested instructional and assessment strategies and suggested resources has been developed for use in Intermediate Level Mathematics.

Learning Outcomes

1. Estimating Skills/Calculator Use
   a. estimate answers to problems
   b. use a scientific calculator to calculate and solve problems involving adding, subtracting, multiplying and dividing whole numbers, fractions and decimals
   c. check that answers and solutions to problems are reasonable in the context of the given question

2. Measurement
   a. use the common metric units for temperature, length, area, volume/capacity, and mass
   b. use the common Imperial units for temperature, length, area, volume/capacity, and force
   c. convert between and within metric and Imperial units using tables and/or calculators
   d. take and read measurements with common measuring tools (e.g. thermometer, ruler, measuring tape, triple beam balance, bathroom scale, stop watch, vernier caliper, micrometer)
   e. describe and apply precision, accuracy and tolerance
   f. estimate in metric and Imperial units of measurement

3. Perimeter, Area, and Volume
   a. find perimeters of triangles, squares, rectangles, parallelograms, trapezoids, circles and composite figures by measuring and using formulas
   b. find areas of the above shapes by measuring and using formulas
   c. find the surface of cubes, rectangular solids, cylinders, cones, spheres, and composite solids by measuring and using formulas
   d. find the volumes of cubes, rectangular solids, cylinders, cones, spheres, and composite solids by measuring and using formulas
   e. distinguish between concepts of perimeter and area and their respective units

4. Ratio and Proportion
   a. read, write, interpret, and compare ratios
   b. read, write and identify proportions and use them to solve problems
   c. use ratio and proportion to interpret and make scale drawings
   d. use proportions to solve problems involving similar triangles

5. Percent
   a. use ratios and proportions to solve problems involving:
      i) finding **%** when **part** and **whole** are known
      ii) finding **part** when **%** and **whole** are known
      iii) finding **whole** when **part** and **%** are known

6. Geometry
   a. name and draw points, lines, rays, segments, and angles
   b. name and draw triangles, quadrilaterals, other common polygons and circles
   c. construct with a compass and straight edge:
      i) the perpendicular bisector of a line segment
      ii) the bisector of an angle
      iii) a copy of an angle
      iv) parallel lines
      v) 30°, 45°, and 60° angles
   d. classify and distinguish among acute, right, obtuse, straight, reflex, complementary and supplementary and vertically opposite angles
   e. describe the angle relationships created when parallel lines are cut by a transversal
   f. measure angles with a protractor
   g. classify triangles according to sides and angles
   h. identify similar and congruent figures

7. Statistics
   a. conduct a survey to collect data
   b. tabulate the data
   c. calculate median, mean, mode, and range
   d. graph the data
   e. interpolate and extrapolate from the information provided

8. Signed (Rational) Numbers
   a. add, subtract, multiply, and divide signed (rational) numbers
      i) demonstrate order of operations with signed (rational) numbers
      ii) graph signed (rational) numbers on the number line
      iii) define absolute value

9. Algebra
   a. explain the use of variables
   b. evaluate algebraic expressions using substitution
   c. combine like terms and remove parentheses
   d. solve first degree equations in one variable
   e. translate a problem into an equation
   f. use equations to solve problems
   g. solve simple formulas for one variable
   h. use formulas to solve problems

PLUS:

Units 1 to 9 of the Learning Outcomes are the core units of the Intermediate Level Math course. To complete the course, students should choose one from A, or B, or C below.

Selection A prepares the student for Advanced Level Algebraic Math or Advanced Level Developmental Math. Selection B is intended for students exiting the ABE structure at the Intermediate Level. Section C is self-explanatory.

A 10. Powers, Roots, and Scientific Notation
   a. read and write numbers expressed as powers
   b. calculate powers with integral exponent
   c. use the rules of exponents to calculate products and quotients of powers with the same base
   d. use the rules of exponents to calculate the powers of powers
   e. express numbers using scientific notation
   f. convert between scientific and standard notation
   g. read and write numbers expressed as roots
   h. calculate using roots

A 11. Polynomials
   a. add and subtract polynomials
   b. multiply and divide polynomials by a monomial
   c. remove common factors from polynomials

A 12. Trigonometry
   a. name the parts of a right triangle
   b. find the missing side of a right triangle using the Pythagorean Theorem
   c. find the measure of an unknown side or angle of a right triangle using sine, cosine, or tangent ratios
   d. solve problems using right angle trigonometry

A 13. Graphing
   a. draw a Cartesian co-ordinate system
   b. plot and name points in a Cartesian co-ordinate system
   c. given an equation in two variables:
      i) determine if an ordered pair is a solution
      ii) find ordered pairs solutions
      iii) create a table of values
   d. graph linear equations
   e. determine the slope of a line given two points on the line
   f. relate slope to grade and pitch
   g. find x and y intercepts
   h. solve problems using graphs of linear equations

B 10. Additional material pertaining to specific vocations

C 10. Additional material in preparation for the non-algebraic Mathematics options at the Advanced Level

Mathematics: Advanced Level — Algebraic Mathematics

Goal Statement

The goals for Advanced Algebra are (1) to prepare students to enter Provincial Level mathematics courses, and (2) to provide students with sufficient mathematical knowledge to satisfy grade 11 prerequisites for vocational, career, and technical programs.

An Integrated Resource Package containing learning outcomes, suggested instructional and assessment strategies and suggested resources has been developed for use in Advanced Level Mathematics.

It is expected that institutions which offer both an Advanced Developmental and Advanced Algebraic Math course may deal with some of these outcomes in the Developmental course and review them in their Algebraic course.

Learning Outcomes

1. First Degree and Linear Equations and Variation
   It is expected that learners will be able to:
   a. translate common language into mathematical notation (e.g. set builder notation, absolute value, equations)
   b. solve first degree equations and formulas
   c. use linear equations and formulas to solve word problems
   d. write linear equations in slope intercept form
   e. graph linear equations using y-intercept and slope and/or x and y intercepts
   f. develop an equation from an existing graph or data
   g. find the equation of a line given the slope and one point, or given two points
   h. determine whether a pair of lines are parallel, perpendicular or neither
   i. express variations in the form of equations (direct, inverse, joint, combined)
   j. solve problems involving direct, inverse, joint and combined variation

2. Systems of Linear Equations
It is expected that learners will be able to:
   a. solve systems of first degree equations in two unknowns by graphing, substitution and elimination methods
   b. solve systems of first degree equations by using appropriate technology (optional)
   c. determine if a system of equations will have no, one or an infinite number of solutions
   d. use systems of equations to solve practical problems
   e. solve first degree systems of equations in three unknowns (optional)

3. Linear Inequalities
It is expected that learners will be able to:
   a. solve and graph linear inequalities in one or two variables
   b. distinguish between "and" and "or" when using combined inequalities
   c. find the regions which satisfy a system of linear inequalities (optional)

4. Polynomials
It is expected that learners will be able to:
   a. distinguish between monomials, binomials, trinomials, and higher degree polynomials
   b. recall rules for exponents and evaluate algebraic expressions using substitution
   c. add, subtract, multiply, and divide polynomials (**Note:** monomial division is required, other division is optional)
   d. factor polynomials using an appropriate strategy: common factors, differences of squares, difference and sum of cubes, perfect square trinomials, trial and error, or grouping.

5. Rational Expressions and Equations
It is expected that learners will be able to:
   a. simplify rational expressions
   b. identify situations where rational expressions will be undefined
   c. add, subtract, multiply and divide rational expressions
   d. solve rational equations and check
   e. solve formulas involving rational expressions, for a given variable
   f. solve problems which can be modeled with rational equations
   g. simplify complex fractions

6. Radicals
It is expected that learners will be able to:
   a. write radicals as powers and vice versa
   b. simplify, add, subtract, multiply and divide radical expressions (numeric or algebraic)
   c. rationalize denominators in fractional expressions containing radicals (including the use of conjugates)
   d. extend the laws of exponents to include rational exponents
   e. solve equations involving radical expressions or powers with rational exponents and check for extraneous roots
   f. solve formulas involving square roots, for a given variable
   g. solve problems which can be modeled by radical equations, and determine if solutions are reasonable given context of the problem
   h. solve exponential equations with the same bases

7. Quadratic Equations and Quadratic Functions
It is expected that learners will be able to:
   a. solve quadratic equations by extracting the roots, factoring, completing the square, and using the quadratic formula
   b. solve quadratic equations using appropriate technology (optional)
   c. solve rational and radical equations reducible to quadratic equations and check that answers are reasonable
   d. solve selected polynomial equations that can be factored simplifying to linear and/or quadratic factors
   e. graph quadratic equations by plotting points
   f. graph quadratic equations of the form $f_{(x)} = a\,(x-h)^2 + k$
   g. find the vertex, line of symmetry, and minimum or maximum values given x and y intercepts, domain and range, $f_{(x)} = a(x-h)^2 + k$
   h. Rewrite $f_{(x)} = ax^2 + bx + c$ as $f_{(x)} = a(x-h)^2 + k$ by completing the square
   i. solve problems that can be modeled using quadratic equations including maximum and minimum problems

8. Trigonometry
It is expected that learners will be able to:
   a. label the sides in a right triangle with respect to a given angle
   b. given a right triangle, determine sine, cosine, and tangent of an angle using the ratios of side lengths
   c. solve a right triangle using sine, cosine, tangent, the Pythagorean theorem, and sum of angles (180°)
   d. use the Law of Sines and the Law of Cosines to solve non-right triangles

Optional Learning Outcomes:
   e. use A = 1/2bcsinA to find the area of a triangle
   f. determine the quadrant for positive and negative angles in standard position
   g. identify coterminal angles
   h. determine primary trigonometric function values for angles in standard position
   i. identify reference angles
   j. evaluate primary trigonometric functions for any angle in a variety of conditions
   k. solve trigonometric equations involving the primary functions over a specific domain

l. examine appropriate interpretation of the calculator display when solving trigonometric equations
m. use the trigonometric definitions to deduce unknown trigonometric values from given values

9. Calculator Use
It is expected that learners will be able to:
a. use a scientific calculator to evaluate complex expressions with emphasis on the use of special keys (pi, sine, cosine, tangent, brackets, memory keys, inverse, exponent (y^x), inverse tan, square, reciprocal, +/-, and scientific notation)
b. use graphing calculator or other appropriate technology to graph equations and solve systems of equations or quadratic equations (optional)

10. Optional Learning Outcomes

It is expected that learners will complete one of either A, or B, or C.

A. Geometry
It is expected that learners will be able to:
i) recall the properties of parallel lines, similar and congruent figures, polygons, angle relationships, angle measurements, and basic compass and straightedge construction
ii) demonstrate an understanding of the following properties of a circle:
- the perpendicular bisector of a chord passes through the centre of the circle
- the line joining the midpoint of a chord to the centre is perpendicular to the chord
- the line through the centre, perpendicular to a chord, bisects the chord
- central angles containing equal chords or arcs are equal (the converse is also true)
- inscribed angles containing the same or equal chords (on the same side of chord) or arcs are equal
- an inscribed angle equals half the central angle containing the same or equal chords (on the same side of chord) or arcs are equal
- an inscribed angle in a semicircle measures 90°
- opposite angles of a cyclic (inscribed) quadrilateral are supplementary
- a tangent is perpendicular to the radius at the point of contact (the converse is also true)
- tangents from an external point are equal
- the angle between a chord and tangent equals the inscribed angle of the opposite side of the chord (the converse is also true)

iii) demonstrate and clearly communicate deductive reasoning in the solution of applied problems

B. Data Analysis
It is expected that learners will be able to:
i) explain the use and misuse of statistics
ii) demonstrate an understanding of confidence intervals - normal curve and units of standard deviation (calculations not required)
iii) design a statistical experiment to study a problem, conduct the experiment and interpret and communicate the outcomes

C. Relations and Functions
It is expected that learners will be able to:
i) distinguish between functions and non-functions
ii) use and interpret function rotation
iii) identify an appropriate graph for a given relation
iv) graph relations or functions of the following types and analyze them to determine domain, range, symmetries, vertices, asymptotes, intercepts, and maximum or minimum values: constant, linear, quadratic function (parabola), square root functions, cubic functions, exponential functions, reciprocal functions, absolute-value functions, piecewise functions, quadratic relations centered on the origin (circle)
v) understand and demonstrate transformations in graphs resulting from the following changes in the defining equation: translation, reflection, dilation
vi) determine an equation of a relation given its graph
vii) create a model function given data or a description
viii) graph quadratic inequalities in two variables

Mathematics: Advanced Level — Business & Consumer Mathematics

Goal Statement

The goal of Advanced Business & Consumer Mathematics is to provide the student with practical applications useful in future vocational training, careers or personal life. This course satisfies the mathematics requirement at the Advanced level.

Generic Topic Outline

1. General Mathematics
a. review of percentage, roots, powers, if required
b. calculator techniques, using tables
c. percentage short-cuts
d. manipulation of formulae

2. Mathematics of Business
   a. banking
   b. mark up and mark down
   c. profit and loss
   d. discount
   e. commissions
   f. payroll

3. Mathematics of Insurance
   a. fire insurance (premiums, losses, etc.)
   b. life insurance (types, premiums, etc.)
   c. other insurance (crop, liability, etc.)

4. Mathematics of Investment
   a. simple and compound interest
   b. bank notes, discounts, proceeds
   c. credit procedures and terminology
   d. use of tables
   e. present and future value of money
   f. mortgages
   g. annuities
   h. stocks and bonds
   i. other investments
   j. indices - inflation, cost of living, etc.

5. Taxes
   a. income
   b. sales
   c. property

6. Options
   a. statistics
   b. probability
   c. bookkeeping etc.

Mathematics: Advanced Level — Developmental Mathematics

Goal Statement

The goal of Advanced Developmental Mathematics is to provide students with sufficient algebra, geometry, and trigonometry to satisfy grade 11 prerequisites for some vocational, career, technical, and/or further academic programs.

Learning Outcomes

1. Operations with Real Numbers
   It is expected that learners be able to:
   a) write fractions as decimals and repeating decimals as fractions
   b) add, subtract, multiply and divide rational numbers
   c) evaluate powers with rational bases and integer exponents
   d) demonstrate the order of operations with rational numbers
   e) evaluate radicals with rational radicands and distinguish between exact answers and approximate answers
   f) simplify, add, subtract, multiply and divide square roots

2. First Degree Equations and Inequalities
   It is expected that learners will be able to:
   a) solve first degree equations, in one variable, including those involving parentheses.
   b) solve formulas for a given variable when other variables are known
   c) solve formulas for a given variable
   d) solve first degree inequalities in one variable
   e) solve practical problems that can be solved using a first degree equation

3. Polynomials
   It is expected that learners will be able to:
   a) distinguish between monomials, binomials, trinomials and other polynomials (in one variable only)
   b) apply the laws of exponents to variable expressions with integral exponents
   c) evaluate polynomials by substitution
   d) add, subtract, and multiply polynomials
   e) factor polynomials by removing the largest common factor
   f) factor binomials of the form $a^2x^2 - b^2y^2$ and trinomials of the form $x^2 + bx + c$
   g) solve quadratic equations using the law of zero products
   h) (optional) factor trinomials of the form $ax^2 + bc + c$

4. Rational Expressions
   It is expected that learners will be able to:
   a) simplify, by factoring, rational expressions consisting of polynomial numerators and either monomial, binomial, or trinomial denominators
   b) determine values for which a rational expression is undefined
   c) multiply and divide rational expressions
   d) add and subtract rational expressions consisting of monomial and/or binomial denominators
   e) solve simple rational equations and check solutions

5. Linear Equations
   It is expected that learners will be able to:
   a) graph a linear equation including the forms $x = a$ and $y = b$
   b) given a linear equation or its graph, determine its
      i) slope
      ii) x and y intercepts
   c) determine the equation of a line, $y = mx + b$, given
      i) its graph
      ii) its slope and a point on the line
      iii) two points on the line

6. Systems of Linear Equations
It is expected that learners will be able to:
   a) solve a system of first degree equations in two unknowns by graphing, substitution, and elimination methods
   b) solve practical problems that can be solved using a system of equations

7. Radical Expressions
It is expected that learners will be able to:
   a) simplify square roots with variable radicands
   b) add, subtract, multiply and divide square roots with variable radicands
   c) solve equations with one square root containing a polynomial radicand and check for extraneous solutions

8. Trigonometry
It is expected that learners will be able to:
   a) solve right triangles using one or more of
      i) the sine ratio
      ii) the cosine ratio
      iii) the tangent ratio
      iv) the Pythagorean theorem
      v) the angle sum property of triangles
   b) evaluate sine and cosine for angles from 0° to 180° (optional)
   c) solve triangles using the Law of Cosines or the Law of Sines, excluding the ambiguous case (optional).

9. Optional Learning Outcomes
Students must complete one of the following optional topics:

   A. The Quadratic Equation
   It is expected that students will be able to:
      a) solve quadratic equations by factoring
      b) solve equations of the form $x^2 + bx + c = 0$ by completing the square
      c) solve quadratic equations by using the quadratic formula
      d) graph $y = ax^2 + bx + c$ and determine its
         i) x and y intercepts
         ii) vertex
      e) solve practical problems that can be solved using a quadratic equation.

   B. Statistics
   It is expected that learners will be able to:
      a) determine the mean, median, mode, range and standard deviation of a set of data
      b) represent data graphically using broken line graphs and bar graphs
      c) understand how the normal curve can be used to describe a normally distributed population
      d) calculate Z - scores and determine areas under the normal curve
      e) use areas under the normal curve to analyze data in terms of the probability of various events.

   C. Financial Mathematics
   It is expected that students will be able to:
      a) solve simple interest problems using the formula, i = prt, (for any variable)
      b) solve compound interest problems for A or P using
      $$A = P(1 + \frac{r}{n})^{nt}$$
      c) find the effective interest rate using
      $$E.R. = (1 + \frac{r}{n})^{n} - 1$$
      d) solve annuity problems using
      $$A = \frac{nP[(1 + \frac{r}{n})^{nt} - 1]}{r}$$
      (for A or P only)
      e) find periodic payment using
      $$P = \frac{A(\frac{r}{n})}{I - (1 + \frac{r}{n})^{-nt}}$$
      f) determine the finance charge on a loan
      g) determine the interest rate on a loan using tables or appropriate technology

   D. Geometry
   It is expected that students will be able to:
      a) classify triangles according to angles and sides
      b) use the properties of triangles to determine the measure of sides and angles
      c) determine the measure and/or congruence of angles given a transversal and two parallel lines
      d) use the triangle congruence theorems in simple guided proofs

Mathematics: Advanced Level — Technical Mathematics

Goal Statement

The goal of Advanced Technical Mathematics is to provide students with practical technical mathematics skills and applications useful in future vocational training, careers, and personal life.

Generic topic outline

1. General Mathematics
   a. review of percentage, root, powers
   b. calculator use
   c. use of tables
   d. manipulation and use of formulas

e. ratio and proportion
f. problem solving strategies
   - guess and check
   - construct a diagram
   - simplify the problem
   - eliminate possibilities
g. scientific notation
h. variation - direct and inverse

2. Measurement
   a. applications involving
      - perimeter
      - area
      - volume
   b. similar figures
   c. reading and interpreting results using various instruments for measuring
   d. accuracy of measurement

3. Trigonometry
   a. definitions of trigonometric functions
   b. applications of trigonometric ratios

4. Additional material pertaining to specific vocations

Mathematics: Provincial Level

Goal Statement

ABE Provincial Level Mathematics is designed to prepare students with the algebra and trigonometry skills necessary for entry into academic, technical or vocational programs including those requiring an Algebra 12 prerequisite.

Learning Outcomes

1. Functions and Relations
   a. graph relations and functions and analyze their graphs with respect to
      - asymptotes
      - x-intercepts and y-intercepts
      - increasing and decreasing intervals
      - maximum and minimum values
      - symmetry with respect to a line or a point
   b. apply the vertical line test and horizontal line test
   c. translate functions vertically, horizontally, and via dilation or reflection
   d. classify functions, where appropriate, as
      - periodic
      - even or odd
      - piece-wise
      - continuous
   e. find or graph the inverse of a function
   f. evaluate composite functions

2. Inequalities
   a. solve one-variable absolute value equations and inequalities both algebraically and graphically on a number line
   b. graph linear and quadratic inequalities
   c. solve linear, quadratic, and rational inequalities
   d. use interval notation to describe the solution of an inequality
   e. solve and graph systems of linear inequalities

3. Polynomial Functions
   a. graph polynomial functions
   b. analyze the graphs of polynomial functions with regards to:
      - the degree of the function
      - the y-intercept
      - real roots and approximating real roots/zeros
      - the domain and range
   c. write complex numbers in standard form, a + bi
   d. determine the conjugate of a complex number
   e. add, subtract, multiply, or divide complex numbers
   f. divide polynomials using long or synthetic division
   g. demonstrate an understanding of the remainder and factor theorems
   h. list possible rational roots for polynomial equations with integral coefficients
   i. solve polynomial equations
   j. given the roots of a polynomial equation, or the zeros of a polynomial function, find its associated equation or function
   k. find the polynomial function given its zeros and a point on the function

4. Exponential and Logarithmic Functions
   a. understand the inverse relationship between exponential and logarithmic functions
   b. graph exponential and logarithmic functions
   c. analyze the graphs of logarithmic and exponential functions in terms of:
      - x-intercepts or y-intercepts
      - increasing or decreasing
      - domain and range
   d. convert between logarithmic and exponential forms
   e. change logarithms in one base to another base
   f. distinguish between common and natural logarithms
   g. use the product rule, quotient rule, power rule to simplify expressions and solve logarithmic or exponential equations

5. Trigonometric Functions
   a. identify special angles on a unit circle
   b. convert radians to degrees and degrees to radians
   c. determine the sin, cos, tan, csc, sec, and cot of an angle in standard position given a point on its terminal side

d. use the following identities to simplify trigonometric expressions, to solve trigonometric equations, or to find exact values:
   - reciprocal and quotient
   - pythagorean
   - sum and difference
   - double angle
   - half angle (optional)
e. graph the sine, cosine, and tangent function
f. from the equation or graph of a sine, cosine, or tangent function, determine the:
   - period
   - amplitude
   - domain and range
   - phase shift
g. calculate inverse trigonometric function values
h. solve trigonometric equations

6. Conic Sections
   a. apply the distance formula and mid-point formula to solve problems
   b. write the equations of circles, ellipses, hyperbolas, and parabolas in standard form
   c. graph and analyze the graphs of these quadratic relations in terms of, where appropriate:
      - symmetry
      - centre and radius
      - asymptotes
      - directrix
      - vertices
      - foci
   d. solve systems of linear/quadratic equations and quadratic/quadratic equations

7. Sequences and Series
   a. distinguish between sequences and series, arithmetic sequences, arithmetic series, geometric sequences, geometric series, infinite geometric sequences, recursively defined sequences
   b. describe a given sequence algebraically
   c. use formulas to find terms, position of terms in sequence or series, arithmetic or geometric means, differences or ratios, sums of series, and sums of infinite series
   d. use sigma notation to describe series
   e. evaluate series designated in sigma notation

8. Problem Solving
   a. use mathematics to solve real life, practical, technical, and theoretical problems
   b. check that solutions are correct and reasonable

9. Optional Topics

   Students must complete one of the following optional topics:

   A. Geometry
      i) recall the properties of parallel lines, similar and congruent figures, polygons, angle relationships, angle measurement, basic compass and straightedge constructions, and circle properties
      ii) make and justify conjectures regarding the relationships between parts of a geometric figure and its properties
      iii) demonstrate the use of auxiliary lines in solving problems
      iv) solve problems using a variety of circle properties and provide a deductive justification for the solution

   B. Calculus
      i) understand and find the limits of polynomial and rational expressions
      ii) find the slope of a tangent line to a curve at a point on the curve
      iii) use the definition of the derivative function to find the derivative of certain polynomials
      iv) find derivatives using the:
         - power rule
         - sum rule
         - product rule
      v) use the derivative to graph and analyze functions in terms of:
         - increasing/decreasing intervals
         - minimum/maximum points
         - concave up/concave down intervals
         - inflection points

   C. Systems of Equations and Inequalities
      i) solve systems of linear equations and linear inequalities
      ii) solve systems of linear equations in three variables
      iii) distinguish between consistent and inconsistent systems and dependent and independent systems

SCIENCES: GENERAL and APPLIED SCIENCE

Adult Education in the natural sciences recognizes the worth of adult experience and the desire to further understand the world around us, ourselves and our relationship to the natural world. General Science programs can best promote such understanding by offering courses which provide opportunities for students:

A. to develop critical thinking skills;
B. to increase their understanding of the concepts and principles of science;
C. to recognize the uses and limitations of scientific methods;
D. to acquire the skills and understand the processes and applications of science.

An applied science course will stress the practical applications of scientific concepts and skills, enabling adult learners to pursue further education, training, and/or employment opportunities.

General and Applied Science: Intermediate Level

Learning Outcomes

The learner will be able to:

- Understand and gain an appreciation for the methods by which scientific knowledge is obtained and organized, so that the learner can apply these methods of problem-solving to everyday life.
- Understand the fundamental concepts and terminology from the three primary branches of science: biology, chemistry, and physics. Some learners may also study other branches of science such as astronomy, geology, or meteorology. The exposure to these subject areas should show the variation, diversity and similarities between all branches of science as well as illustrate the effects of science in the learner's everyday life.
- Understand the methodology of a controlled experiment, and the necessity of performing experiments in order to acquire scientific knowledge.

The course is not limited to units in biology, chemistry and physics, but may be expanded to suit individual or local needs. No time allotments have been suggested, but it is assumed that the average completion time for Intermediate Science will be similar to that for the same level subjects in English and Mathematics.

Generic Topic Outline

At least five units are required, but additional units may be added as desired. The following are outlines of content of suitable units.

A. Introductory Science. To develop an understanding of the concepts, the application and the limits of:
   - science
   - the scientific method
   - skills and techniques of science (experimental design, use of tables, graphs, classification)
   - measurement (to include SI units)
   - science and technology

B. Human Biology. To understand the importance of and inter-dependence between biological systems as covered in one of the following units:
   1. Nutrition
      - energy needs
      - nutrients
      - planning of a healthy diet
      - special foods and diets
      - worldwide food needs
   2. Human Biology
      - skeletal and muscular systems
      - blood and its circulation
      - respiratory system
      - digestive system
      - nervous system

      (Reproductive system might be substituted for one of the above.)
   3. The Cell
      - the microscope
      - theory, structure and function of the cell
      - cellular processes
      - cell division
      - cell organization

C. Chemistry. To acquire a general understanding of the structure of matter and the organization of the Periodic Table:
   - Matter
   - Elements and the Periodic Table
   - Compounds, bonding and formulas

D. Physics. To analyze and solve problems involving quantitative analysis of physical variables as covered in one of the following units:
   1. Machines
      - force
      - work
      - work and machines
      - simple machines: levers, inclined planes, wedges, pulleys, wheel and axle
      - other machines: gears, pulley systems, hydraulic systems.
   2. Energy
      - basic concepts: force, work, energy, conservation law, power
      - forms of energy
      - thermal energy
      - electrical energy
      - conservation of energy
   3. Electrical circuits
      - AC and DC currents
      - measurement
      - Ohm's law
      - circuits
      - switches, fuses, etc.
      - safety
   4. Motion in one dimension
      - velocity
      - acceleration

E. The fifth unit may be chosen from the above or from other topics such as disease, drugs, disabilities, fertilizers and pesticides, textiles, chemical reactions and equations, weather, astronomy, earth science, environmental issues, etc.

All Intermediate General Science courses must include experiment and/or field time of at least 10% of the total time. Experiment and/or field exercises should be relevant to the selected units and emphasize those techniques and skills appropriate for this level of course.

General and Applied Science: Advanced Level

Learning Outcomes

Adult learners will be able to increase their knowledge, skills and understanding of science up to the Advanced Level through curriculum based on a unifying theme which may specialize in one or more branches or disciplines of science or applied science.

General and Applied Science: Provincial Level

ABE Provincial Science is designed to offer a curriculum based on the knowledge skills and understanding of science. Courses will include provincial level material from one or more of Biology, Chemistry, Physics, or Earth Sciences organized around a central unifying theme.

SCIENCES: BIOLOGY

Goal Statement

Biology is the study of living organisms and life processes. In the study of biology, adult learners can use their life experiences to expand their knowledge of both the macro and micro environments, their appreciation of the living world's natural order and their role in it.

The Biology Advanced Level Integrated Resource Package developed by the Centre for Curriculum, Transfer and Technology is suggested as an excellent resource for this course.

Learning Outcomes

Biology learners will:

- Obtain the prerequisite body of knowledge and skills that will provide a basis for further academic and career/vocational education and training
- Appreciate the qualities, the quantities and the variety of living organisms, and understand their impact on human lives, society, and the environment
- Use scientific method to evaluate information and to analyse experiences
- Communicate science effectively
- Work independently and also as part of a team, where appropriate
- Read and evaluate popular publications about issues in the life sciences with increased understanding and interest
- Actively gain the knowledge, skills, and attitudes that provide the basis for sound and ethical problem solving and decision making
- Make informed and responsible decisions about themselves, their homes, workplaces, and the global community

Biology: Advanced Level

Generic Topic Outline

Core Topics

A. Review of the Scientific Method, the cell, and essential chemistry.

B. Diversity of life
- classification
- viruses
- monera
- protists
- fungi
- major phyla of plants: bryophytes, tracheophytes
- plant form and function of vascular plants
- major invertebrate phyla: sponges, cnidarians, unsegmented worms, annelids, molluscs, echinoderms, and arthropods
- major vertebrate phyla: fish, amphibia, reptiles, birds, mammals

Note: taxonomy and classification themes should be continued throughout this section.

C. Ecology
- energy transfer; food chains, food webs, energy pyramids
- communities and populations; distribution, dynamics, and changes over time
- biogeochemical materials cycles
- the biosphere; aquatic and terrestrial biomes, using British Columbia examples
- Ecological problems and solutions

D. Evolution
- evidence for evolution
- theories (past and present)
- origin of life

E. Options
- resource management
- applied ecology
- ecological methods
- parasitology
- behaviour
- genetics
- local topics

All Advanced Biology courses must include seven laboratory and/or field work activities.

Biology: Provincial Level

Generic Topic Outline

Core Topics

A. Cell Biology
- structure and function
- cell compounds
- protein synthesis
- cell division

B. Bioenergetics
- photosynthesis
- cellular respiration

C. Genetics
- principles of genetics

D. Human Biology
- homeostasis
- tissues, organs and systems
- at least eight (8) topics from the following:
  - skeleton and musculature
  - digestion
  - circulation
  - blood and immunity
  - respiration
  - nervous system
  - endocrines
  - excretion
  - reproduction
  - human development

E. Options
- cancer
- nutrition
- plant form and function
- local topics

All Provincial Biology courses must include seven laboratory and/or field work activities.

SCIENCES: CHEMISTRY

Goal Statement

Chemistry is an essential part of the everyday world. A knowledge and understanding of its principles is the base on which applications in health, the environment, and industrial development are founded. The chemistry courses will foster understanding of science as a vital part of a sustainable society and provide a basis for further academic and career/vocational training.

An Integrated Resource Package containing learning outcomes, suggested instructional and assessment strategies and suggested resources has been developed for use in Advanced Level Chemistry.

Chemistry: Advanced Level

Learning Outcomes

Advanced Level Chemistry learners will:

- Obtain the prerequisite body of knowledge and skills that will provide a basis for further academic and career/vocational training
- Appreciate and apply the chemistry of everyday life
- Apply the scientific method to investigations of all phenomena
- Communicate effectively, particularly to the scientific community, using the language of chemistry
- Carry out all duties in an ethical, professional manner, including the collection and treatment of data
- Work effectively as a member of a team
- Handle equipment and chemicals in a safe and effective manner with regard to their own safety and the safety of others

Generic Topic Outline

Core Topics

A. Safety

B. Measurement
- precision, accuracy and significant figures
- scientific notation
- conversions within the metric system

C. Properties of Substances
- organic and inorganic compounds
- phases
- chemical properties
- physical properties
- Dalton's theory
- gas laws *(brief coverage)*

D. Periodic Trends
- use of the Periodic Table
- isotopes

E. Atomic Structure
- Bohr model
- historical and modern theories

F. Mole Concept
- calculations

G. Bonding
- covalent
- ionic
- other
- electronegativity

H. Inorganic Nomenclature

I. Chemical Reactions
- balancing of equations
- types of reactions
- Stoichiometry
- exothermic and endothermic reactions

J. Solutions
- molarity and percent solutions
- conductivity
- arrhenius acids and bases
- pH scale *(qualitative only)*

A minimum of eight labs are to be completed, covering the core concepts.

Chemistry: Provincial Level

Generic Topic Outline

Core Topics

The Provincial Chemistry program will emphasize:

A. Reaction kinetics
- theory, rate, mechanism

B. Equilibrium
- characteristics, Le Chatelier's Principle, K

C. Solubility of ionic substances
- Solubility rules, Ksp, etc.

D. Acids-Bases
- Bronsted-Lowry, Kw, Ph, buffers

E. Oxidation-Reduction

- reactivity series
- balancing equations
- electrochemical and electrolytic cells

F. Gas Laws
- Boyle's Law
- Charles' Law
- Gay-Lussac's Law
- Combined Gas Law
- Ideal Gas Law

G. Organic Chemistry
- A minimum of eight labs are to be completed, covering the core concepts
- Options may include: nuclear chemistry, biochemistry, advanced work on bonding, industrial applications, etc.

SCIENCES: PHYSICS

Goal Statement

Since Physics is the study of the fundamental laws of nature, it is relevant to a wide range of human concerns and achievements. Technological change, which stems from an understanding of physics, is often accompanied by extensive social change, to which each of us must adapt. Moreover, the concepts of physics have profound effects on the way we think about the universe, our societies, our work and ourselves. At the most immediate level, physics is essential to academic studies and career training in a wide range of fields

Advanced and Provincial Level Physics should therefore aim to foster and develop, as pant of general education, a scientific way of thinking and a basic knowledge of scientific ideas. The courses should also nurture an understanding of science as an integral part of society's culture and provide groundwork for further academic, career, or vocational training.

An Integrated Resource Package containing learning outcomes, suggested instructional and assessment strategies and suggested resources has been developed for use in Advanced Level Physics.

Learning Outcomes

Physics learners will:

- Obtain the pre-requisite body of knowledge and skills that will provide a basis for further academic and career/vocational training
- Use scientific processes in an ethical and appropriate manner
- Appreciate and apply the physics of everyday phenomena
- Link physics to their own practical experience
- Work effectively as a member of a team in a responsible and respectful manner
- Handle equipment and lab materials in a responsible and effective manner with regard to their own safety and the safety of others
- Apply scientific concepts, recognizing their strengths and weaknesses, to broader societal issues
- Critically evaluate controversial points of view around issues where science offers information or perspective
- Develop critical thinking skills

Physics: Advanced Level

Generic Topic Outline

Core topics

A. Measurement
- solve problems involving SI units
- maintain the correct number of significant numbers in calculations
- use uncertainties in measurements

B. Kinematics
- solve and analyze kinematics in one dimension
- construct and use distance versus time curves
- construct and use velocity versus time curves
- solve problems involving uniform acceleration

C. Dynamics
- solve and analyze dynamics in one dimension
- apply Newton's laws of motion in one dimension
- solve problems involving:
  - friction forces
  - gravity forces
  - elastic forces
- solve and analyze problems in kinetic and potential energy
- solve and analyze problems in energy conservation
- solve problems involving work and power

D. Electricity
- solve and analyze problems involving Coulomb's law
- solve and analyze problems involving Ohm's law
- define electric potential difference
- solve simple D.C. resistance problems involving series and parallel circuits

E. Heat
- define temperature, heat energy and specific heat capacity
- solve and analyze problems in heat energy
- demonstrate an understanding of the different mechanisms of heat transfer

Options:

The following topics may be useful to students going on to further physics courses:

- wave phenomena applied to light and sound
- atomic and nuclear physics

Laboratories:

There should be one laboratory from each topic and a minimum of seven laboratories. Laboratory skills must include:

- collecting data through observation
- constructing graphs
- drawing conclusions from observations and data
- calculating experimental error

The Ministry of Advanced Education, Training and Technology (formerly the Ministry of Education, Skills and Training) has developed a Physics Integrated Resource Package (IRP), 1996. Any course that incorporates all these learning outcomes will meet articulation requirements.

Physics: Provincial Level

Generic Topic Outline

Core topics

A. Kinematics
- solve and analyze kinematics in two dimensions

B. Dynamics
- solve and analyze dynamics in two dimensions
  - two-dimensional equilibrium
  - momentum in two dimensions
  - energy conservation
  - circular motion

C. Electrostatics
- do calculations with electric field strength
- do calculations with electric potential energy

D. Electromagnetism
- do problems involving magnetic forces
- analyze and solve problems involving magnetic induction

E. Vibrations and Waves
- define wave length, frequency and period
- analyze and solve problems involving wave phenomena
- describe various wave phenomena and the conditions which produce them
- construct ray diagrams for mirrors and simple lenses

Options:

The following topics may be useful to students going on to further physics courses:
- AC circuits
- relativity
- quantum mechanics
- electronics
- fluids

Laboratories:

There should be one laboratory from each topic and a minimum of seven laboratories.

SOCIAL SCIENCE

General Statement

Adult Basic Education Social Science is designed to provide learners with the specific competencies and knowledge necessary to become informed, responsible and productive members of society. The curriculum recognizes the worth of adult ideas, experiences and opinions by encouraging discussion of them within the learning activities. The curriculum promotes an analytical and critical approach to social science topics. The overall purpose of ABE Social Science is to encourage learners to become more active participants in our society and to enable them to more effectively play their roles as citizens, family members, consumers, community members, workers and learners.

An Integrated Resource Package containing learning outcomes, suggested instructional and assessment strategies and suggested resources has been developed for use in Social Science instruction.

Goal Statement

The goals of the curriculum are broadly applicable to all levels, Fundamental through Provincial. They are:

1. to enhance the ability of learners to understand and participate in the social, economic and political events that are part of their daily lives, both in Canada and globally (citizenship development);
2. to develop curiosity about and understanding of major historical, geographic, economic, political, sociological and psychological concerns (acquisition of skills, concepts and knowledge and promotion of a focus on continuity of past, present and future);
3. to encourage learner competence in a range of thinking processes (critical thinking skills);
4. to enable learners to assess and revise personal values and to appreciate better the values of other persons and cultures (values study and analysis, social action);
5. to encourage learners to continue learning throughout their lifetimes (life-long learning).

Competencies

Participants in ABE Social Science programs should be encouraged to acquire the following skill competencies, interpretative competencies and affective competencies. The competencies apply in general to all levels, Fundamental through Provincial, with the recognition that particular competencies may be more or less applicable at each level.

- Skills Competencies
- Affective Competencies
- Interpretative Competencies

A. Competencies involving skills
   1. Learning to identify sources of information from:
      - libraries (resource books, texts, periodicals)
      - media sources
      - interviews, surveys and observations (Provincial)
   2. Learning to extract information from a variety of media such as:
      - regional, national and global maps
      - details of latitude and longitude, scale and distance
      - contour and relief maps
      - artifacts and documents
      - historical and contemporary media, art, literature, cartoons, etc.
      - electronic media: CD-ROM, Internet, software
   3. Learning to organize information into a range of formats, such as:
      - notes, outlines and reviews
      - maps, graphs, tables, etc.
      - generalizations
      - research summaries
   4. Learning to analyze information in a variety of ways, such as:
      - finding main ideas
      - asking evocative questions
      - comparing and contrasting with other sources of information
   5. Learning to communicate in a variety of methods by:
      - presenting and defending points of view in appropriate written and oral forms:
        - summaries (Intermediate)
        - short essays/papers (Advanced)
        - research papers or equivalent assignments incorporating research and synthesis of information (Provincial)
        - utilizing a variety of presentation methods (e.g. graphs, tapes, drawings, slides, transparencies, etc.)

B. Competencies in the affective domain
   1. Students should be able to:
      - clarify, discuss personal values with respect to social issues
      - identify avenues of democratic participation to channel personal values and positions in a social democracy
      - recognize and respect right of others to hold personal values and positions in a social democracy

- establish hypotheses concerning values (Intermediate)
- establish and test hypotheses concerning values (Provincial)

C. Competencies in the interpretive domain
   1. Students should be able to handle facts in many ways:
      - distinguishing between statements of fact and opinion (Intermediate)
      - indicating statements that reflect consistent or contradictory views
      - recognize and evaluate the degree to which facts are subjective due to factors like time and point of view (Provincial)
   2. Students should be conversant with the subject matter presented, specifically:
      - demonstrate a knowledge of the materials (Intermediate)
      - demonstrate an ability to question and react to the material (Advanced)
      - demonstrate an ability to describe and comment on the theoretical underpinnings of the area(s) being studied (Provincial)
   3. Students should be able to:
      - recognize inferences (Intermediate)
      - generate inferences from complex media (Advanced)
      - generate inferences and integrate them into a better understanding of the subject (Provincial)

Social Science: Intermediate Level

Generic Topic Outline

- Canadian History
- Cultural Diversity
- Canadian Government, Law and Citizenship
- Economics and People

A. Canadian History

Pre-contact:
- Indigenous People
- Explorers

Post-contact:
1. French and British Foundations in Canada
   - establishments of New France
   - expansion of the fur trade
   - struggle for control
2. Development of the British North American Colonies
   - opening of the West
   - conflict with the Americans
   - advancement of self government - Confederation of Canada
3. Creating a New Nation
   - transcontinental expansion
   - struggle for national unity
   - growth of Canadian autonomy
4. Canada at war
   - World War I
   - Inter-war period
   - World War II
5. Postwar Canada
   - political change
   - social change
   - economic change

B. Cultural Diversity
   1. Idea of Culture
   2. Aboriginal Culture
      - history and its effects on aboriginal peoples
      - define aboriginal culture
      - reserves - origins and impact
      - government policies and their effect on aboriginal peoples
      - contemporary issues:
        a) aboriginal land claims
        b) aboriginal self-government
   3. Immigration - Past and Present
      - settlement patterns
      - economic and other consequences
   4. Examine the concept of diversity
      - problems and accomplishments of different ethnic groups
      - cultural differences - regional and national
      - bilingualism
      - aspects of multiculturalism and diversity with focus on concepts and issues such as:
        a) racism
        b) role of women
        c) assimilation/integration/cultural mosaic

C. Canadian Government, Law and Citizenship
   1. Government
      - idea of Government
        a) purposes
        b) political ideologies
      - Canada's Constitution
        a) evolution
        b) division of powers
        c) Charter of Rights
      - levels of Government
        a) Federal
           i) Executive, Legislative and Judicial branches

ii) political parties
iii) electoral process
iv) financial responsibilities
v) service/program responsibilities

b) Provincial - same subdivisions as for Federal Government
c) Territorial - same subdivisions as for Federal Government
d) Municipal - same subdivisions as for Federal Government

2. Law
   - Criminal
   - Civil
   - Court System
     a) Federal
     b) Provincial
     c) Municipal
3. Citizenship
   - idea of Citizenship
   - roles, rights and responsibilities

D. Economics and People
1. The Idea of Economics
   - historical overview
   - factors in economics such as:
     a) capital
     b) labour
     c) technology
     d) transport
     e) resources
     f) energy
     g) management
     h) social-political factors that affect development (isms and public policy)
     i) supply and demands
     j) cycles
     k) family and individual
2. Employment/Unemployment
   - application of economic factors listed above
   - job search and understanding of the labour market
3. Community-based and Local Economic Development
   - small business & entrepreneurship
   - co-ops and credit unions
   - community-based and local non-traditional economics (barter, worker co-ops, etc.)
4. Regional Unit
   - application of economic factors listed above to local economies.
5. Consumer Rights and Responsibilities
6. Issues in Economics such as:
   a) who plans the economy?
   b) taxation and government spending
   c) free trade
   d) conserver society

Social Science: Advanced Level

Generic Topic Outline

A. People and their Environment
- energy use and abuse
- food production
- quality of life
- industrialization

B. Global Citizenship
- geopolitics
- migrations
- population studies
- energy use and abuse

C. Levels of Economic Development
- food production
- energy use and abuse
- industrialization
- economic systems

D. Locally Developed Unit
- anthropology
- sociology
- history
- geography
- psychology

Psychology - Generic Topic Outline

A. Relationships
B. Human Development
C. Culture
D. Self Esteem
E. Group Dynamics
F. Conflict Resolution
G. Decision Making/Problem Solving
H. Assertiveness
I. Fields of Psychology
J. Communication
K. Perception
L. Health and Wellness
M. Definitions

The above list of topics is intended to reflect an applied approach to psychology at the advanced level. A list of applied interest areas for each topic will be developed by the working committee to further expand psychology at the advanced level.

Social Science: Provincial Level

Geography - Generic Topic Outline

The focus is on Physical and Human Geography.

A. Meteorology & Climatology
- earth and sun relationships
- atmosphere, structure and composition
- insolation and temperature
- atmospheric pressure and winds
- moisture, humidity and precipitation
- mapping weather

B. Geomorphology
- rocks
- tectonic forces
- gradational forces
- weathering processes
- landforms
- geophysical hazards

C. Cartography
- types of maps
- scale
- grids

D. Demography
- distribution and density
- population growth and control
- population and food consumption
- migration

E. Resources
- renewable/non renewable
- energy types

History - Generic Topic Outline

The focus is on 20th Century World History.

A. The World at the Beginning of the Century
- nationalism and imperialism
- causes and course of the war
- Russian War and Revolution

B. The World after World War I
- Treaty of Versailles and League of Nations
- Germany and war reparations
- Japanese imperialism
- Europe and North America in the 20's

C. The World in the 30's: Depression & Dictatorship
- the Great Depression - causes & consequences
- the Rise of Hitler's Germany
- Roosevelt and the New Deal
- Stalin's rise to power and modernization of Russia

D. World War II
- origins
- causes
- events

E. The Cold War and Reconstruction
- two Germanys
- the Iron Curtain
- confrontation or coexistence
- Western Europe: towards New Community
- emerging Asian economies

F. The Third World and China
- Mao's China 1949-76
- end of European empires and the advent of new imperialism
- the Middle East

G. Contemporary Issues

Economics - Generic Topic Outline

The focus is on providing an introduction to some of the basic concepts of economics.

A. Introduction
- origins and history of economics
- terminology
- definitions of economic terms
- scarcity
- modern economic systems and their evolution - communism, socialism, capitalism, fascism

B. Production
- explanation of production
- factors of production (land, labour, capital, entrepreneur)
- organizations of production (single ownership, partnership, corporation, state ownership, cooperatives)
- large-scale production - advantages and disadvantages
- monopoly - an assessment of its various forms (pool, holding company, merger) and its growth

C. Exchange
- the price system
- money
- credit and banking
- marketing and transportation
- international trade and foreign exchange

D. Distribution
- elements of distribution, such as:
  a. national income
  b. wage determination
  c. interest and savings
  d. interest rates
  e. profits
- the Labour Movement (history and development)
- labour problems
- labour legislation
  a. collective bargaining
  b. contracts
  c. the right to strike
  d. strike alternatives, labour laws

E. Consumption of Goods
- principles of consumption
- saving and investing

F. The Role of Government
- federal, provincial and municipal expenditures
- increasing public expenditures
  a. social services
  b. national defense
  c. crown corporations
  d. debts - national and provincial
- sources of government revenue
  a. advantages and disadvantages of various types of taxation
  b. federal taxation
  c. provincial taxation
  d. municipal taxation

G. Economics and Business
- the balance sheet (assets and liabilities)
- costs and cost control
- reasons for business failure

H. Current Events
- domestic issues (issues of local and national concern)
- international issues

Psychology - Generic Topic Outline

The focus is on providing an introduction to some of the basic concepts and applications in psychology.

A. Introduction
- Origins and history of psychology
- Terminology
- Methodology

B. Theoretical Approaches
- Psychoanalytic
- Behavioural/cognitive
- Human potential
- Others

C. Developmental Psychology
- Stages of life
- Sex and gender

D. Learning
- Definitions
- Theories
- Learning styles
- Thinking

E. Communication
- Theory
- Non-verbal
- Aggressive/assertion
- Conflict
- Listening skills
- Gender differences

F. Stress and Wellness
- Definitions
- Theories
- Strategies
- Personality

G. Other Possible Topics
- Abnormal psychology
- Physiology
- Ethics
- Motivation
- etc.

H. Applications
- Addictions
- Family
- Parenting
- Anger management
- Personal development
- Abuse

Directions to Future Submitters of Courses Under the Social Science Section

Please submit course proposals to the chair of the committee at least one month prior to the annual meeting. If this is not possible, contact the chair. Please ensure that the course proposals reflect the goal statements, competencies and generic skills as outlined in the Articulation Handbook.

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